



California State University, Long Beach

CHEMISTRY DEPARTMENT

NEWSLETTER

August 1981 No 6

Charles Casey: Second Rachelle Lecturer



Dr. Charles P. Casey, Professor of Chemistry at the University of Wisconsin, was named the second annual Rachelle Distinguished Visiting Lecturer. His visit occurred during the week of March 16, 1981. Professor Casey is an internationally respected organometallic chemist who has made important contributions to the study of the chemistry of metal-carbene complexes and to an understanding of the mechanisms of important organometallic reactions such as olefin metathesis and the Fischer-Tropsch process.

During his visit Professor Casey delivered two research seminars which focused on mechanistic studies of reactions catalyzed by transition metal organometallic compounds: "Olefin Metathesis" and "Model Studies of Carbon Monoxide Reduction." The latter seminar, which was followed by a reception and a dinner at which a number of prominent chemists from area schools such as UCLA, Cal State Los Angeles, USC, Cal State Fullerton, Cal State Northridge, and Cal State Dominguez Hills were special guests. Another talk to a general student audience

about "Chemicals and Fuels from Coal" gave an overview of the current state of research and interest in the production of synthetic fuels and industrial chemicals as well as some of the prospects for future directions in this area.

Professor Casey also discussed graduate school opportunities with interested students and held informal discussions of research interests with a number of faculty. He was the special guest at a breakfast meeting of the Department Advisory Council where he led a discussion on the future of synthetic fuels research.

Dr. Casey's visit was made possible by a generous contribution from Rachelle Laboratories. The Department hopes to continue this series of lectureships in the future.



Chairman's Message

As you can judge from the contents of this *Newsletter* we have had an active and eventful year and are looking to the future with optimism and even excitement.

The 1980 report of the Committee on Professional Training of the American Chemical Society [*Chem. and Engin. News*, 59, 37 (1981)] shows the Chemistry Department at CSULB to rank *first* in the nation in the production of bachelors degrees among institutions not granting the PhD. Among all institutions, including those offering the PhD, we rank twenty-second, ahead of such giant institutions as the University of Minnesota, Ohio State University and the University of Texas. In 1980 we graduated 55 bachelors students, and for 1981 unofficial figures show that approximately 65 students have received their bachelors degrees in Chemistry. The number of degrees awarded in Chemistry in 1980 made that graduating class the largest in the nineteen-campus CSUC system and the largest in the history of our Department. Eight masters degrees were also conferred.

Continued on Page 2



CSULB Alumnus Dorer Accepts Deanship

Dr. Fred H. Dorer, BS 1961 CSULB, PhD 1965 University of Washington, and presently Professor of Chemistry at San Francisco State University, has accepted the Deanship of the School of Science at Sonoma State University. The School of Science incorporates the departments of Biology, Chemistry, Geology, Mathematics, Nursing, Physics and Physical Education. After receiving his PhD, Dr. Dorer spent a year as a research chemist with Shell Development Company in Emeryville, California. The following year he accepted a position on the faculty at California State University, Fullerton where he remained until 1975. From 1974 to 1975 he was granted a leave from CSU Fullerton to become Associate Program Director for Chemical Dynamics with the National Science Foundation. In 1975 he accepted a position as Chairman of the Department of Chemistry at San Francisco State University.

Dr. Dorer has been active in research, holding several grants from the National Science Foundation and the Petroleum Research Fund. He is the author of numerous publications in the area of gas phase kinetics and the kinetics of heterogeneous systems.

His interests in physical chemistry originated at CSULB where he was an undergraduate research student in Dr. John Stern's laboratory.

Congratulations to another successful alumnus!

Chairman's Message *Continued*

The faculty have been working diligently to improve upon an already good program, and the result has been the doubling of degree production in the last five years. Our Department is also active in the placement of students once they receive their degrees. We have an outstanding record of acceptances into PhD programs, medical, dental and pharmacy schools and job placement at the bachelors level (see "Future Plans..." elsewhere in this *Newsletter*).

There have been some recent changes in our curriculum which might interest you. Both BA and BS students are now required to complete two semesters of English composition. (One semester may be a course in Technical Report Writing.) Candidates for both degrees must have at least one course in a computer language with programming experience. In addition, BS candidates are required to participate in some undergraduate laboratory research project as part of their degree program. Our curriculum is under constant review and other major changes are contemplated for the future.

I am pleased to report that, as of this writing, \$947,000 is included in the 1981-82 State budget for the complete renovation and modernization of the organic chemistry instructional laboratories. This will include individual hoods for each laboratory student and expanded instrument room facilities. Funds have also become available for the renovation of hoods and venting systems throughout the Science complex to bring our laboratories into compliance with current air-handling standards. We are hopeful that plans for the construction of rooms to accommodate Freshman Chemistry discussion sessions will also be funded. Installation of computer-assisted instruction modules and audio-visual aids as well as demonstration facilities are an integral part of this plan. Bob Henderson is our architect-in-residence and has put in long hours with the faculty in formulating plans to upgrade our aging facilities.

Our Chemistry Advisory Council continues as a valuable asset. The advice of the members, assistance with placing students, and help with projects such as summer research fellowships and visiting lectureships have made a great impact on the quality and morale of our Department. Companies represented on the Council include AGRI Science Laboratories, Douglas Aircraft, Dow Chemical, Getty Synthetic Fuels, Hyland Laboratories, Douglas Aircraft, Dow Chemical, Getty Synthetic Fuels, Hyland Laboratories, Los Angeles Department of Water and Power, Nalco Chemical, Pilot Chemical, Rachele Laboratories, Rockwell International, Shell Oil, Stauffer Chemical, Texaco, TRW, Union Oil and West Coast Technical Service.

We now have 690 alumni scattered across the nation and throughout the world. Each year over one-tenth of our alums respond to our appeal for information about themselves which we publish in this *Newsletter*. We hope to hear from you again even if you have responded in previous years. For those of you whom we have not heard from—please let us know something about yourselves, your work, your families, your interests.

Alums are always welcome to drop by for a visit. We hope you will notice more improvements in our facilities and will look kindly upon the graying heads and mellowing dispositions of your once young professors!

With kindest regards,

Ken Marsi



FACULTY NOTES

Dr. Jerald Devore was promoted to Professor of Chemistry, and Dr. Jeffrey Cohlberg received tenure and was promoted to Associate Professor.

Dr. Teresa Shaw joined our Department as a Lecturer in Organic Chemistry in the Fall of 1980. Dr. Shaw received her PhD in 1978 from UCLA where she was associated with Dr. Mike Jung's research group. She spent one year with DuPont in Delaware prior to returning to California to accept the position of Lecturer.

Dr. Richard Hunt is currently on leave at Morehead State University in Morehead, Kentucky where he is teaching and initiating a research program in coal conversion.

Dr. Charles "Pat" Dunne is completing a second year's leave at the Army Research Center in Natick, Massachusetts where he is engaged in food research.

Dr. Dorothy Goldish will return in the Fall of 1981 after a sabbatical year spent with Dr. Harold Moore at UC Irvine. This summer is being spent revising her best-selling paperback, "Basic Mathematics for Beginning Chemistry."

Dr. Larry Kirk, a Lecturer in Biochemistry for the past two years, has accepted a permanent post at California State University, Chico.

Dr. Darwin Mayfield, Director of Research for the University for the past fourteen years, has resigned that position to return to fulltime teaching in the Chemistry Department.

Dr. Tom Maricich will spend a sabbatical year doing research in sulfur chemistry with emphasis on compounds with antineoplastic activity. He will shuttle back and forth between CSULB and USC where he will be associated with Dr. Charles Heidelberger of the Los Angeles County-USC Cancer Center.

Dr. James Jensen will spend an academic quarter at UC Irvine lecturing in Freshman Chemistry. The remainder of the academic year will be spent on a sabbatical in residence.

Dr. Edwin Becker has recovered nicely from major surgery last fall which necessitated a semester's absence from teaching duties.

Dr. Julie Kierbow, Emeritus Professor of Chemistry, was honored as Grand Marshall at the School of Natural Sciences Commencement Ceremonies for 1981 held in the Inner Quad on May 28. She and her husband, Dave, reside in Arizona.



MORE FACULTY NOTES

Each year we feature the activities of a few faculty in greater depth. This year they are

Jim Jensen: "I'm working on the fifth year of an NSF-supported project (\$125,100 total) attempting to define the role of general catalysis in the hydrolysis of acetals and hemiacetals. In 1980 Kathy Cannon, Ralph Hall, Cheryl Shimazu, and Bill Wuhman completed MS degrees; 1981 should be the year for Larry Herold, Loc Le, and Terry Schneider!

"In February I again served on an NSF review panel for a program which provides support to undergraduate colleges/universities for the purchase of research equipment.

"A sabbatical leave (1981-82 academic year) will be spent writing papers on acetal/hemiacetal hydrolyses, trying to establish an academic-industrial research program, and learning more about using micro and minicomputers (plus some plain old R & R). Most of the time I'll be near CSULB, although summer conference trips to Vancouver, B. C. (1981) and England (1982) are planned."

Robert Loescher: "Last year (1979-80) I was on sabbatical at Purdue University in Indiana. It was a good year as I was able to do a lot of reading and perform some interesting research involving the photo-chemistry of bichromophoric molecules (molecules containing two functional groups which both absorb UV light). It is interesting to determine what structural changes will allow energy transfer be-

Continued on Page 3

More Faculty Notes Continued

tween the two chromophores. In some instances, for example, irradiation into the benzene portion of a *cis* isomer will cause photoreactions of a ketone within the molecule; while, say in the *trans* isomer of the same compound, no changes will occur.

"This year I am setting up my own research again at CSULB and plan to continue some of the Purdue work as well as to renew my interests in herbicide photochemistry."

Kenneth Marsi says "I am completing my sixth year as Department Chairman and have been elected for another three-year term. In addition to Departmental administration and teaching, I am carrying on a research program with three students which has been funded by the University Research Committee. One research project involves the synthesis of compounds having antineoplastic activity. The other project is a continuation of my long-standing interest in mechanisms of substitution reactions at phosphorus when contained in ring systems of various types and sizes. Students participating in these programs are Mario Fernandez, an MS student from Mexico who will be completing his degree during the Fall 1981 semester, and two talented undergraduates: David Cooper, who has been accepted for graduate studies at UC Irvine; and Jeff Jetter, a graduating senior in the Fall of 1981.

"I have been elected to the Executive Committee of the local ACS Section in which I have been active off and on for the past nineteen years.

"In June I attended the International Conference on Phosphorus Chemistry at Duke University in Durham, NC, where I presented a paper and chaired a section on 'Phosphorus Heterocycles'."

Henry Po reports "In the past year our research group has been studying the kinetics and mechanism of fast redox reactions and the electrochemistry of inorganic complexes. Gary Tietavainen, Duane Smith, and Dave Moromisato (the only undergraduate in the group) are involved in the kinetics of oxidation of heterocyclic thioamides, Gary has just completed his thesis research using substitution-inert complexes of iridium (IV) as oxidants. Our main goal here is to obtain a generalized mechanism to account for the one-electron oxidation kinetics of these thiols. We have been encouraged by our findings and by the grant support of the PRF.

"In the electrochemistry area, Betty Chang has completed the redox potentials measurement on seventeen ferrocene derivatives and has now finished her thesis. Our emphasis in electrochemistry at the present stage is to learn more about the substituent effect on the redox property of the complexes."

John Stern, with his family, spent the '79-'80 academic year in London, England on sabbatical leave as visiting professor at Queen Elizabeth College of the University of London. Vacation breaks saw them hostelling about England or Scandinavia, or visiting friends in Holland.

After returning last Fall John and his students resumed the investigations into the thermodynamic properties of aqueous nucleosides. He says, "Lisa Swanson's research is on uridine in pure water and aqueous ethanol, Jim Edelman is calibrating our newest microcalorimeter "Speedqueen," which was constructed in our shops by machinist Steve Wujs, and I am making measurements with cytidine."



NOBEL LAUREATE PROMOTES PLANT AS ALTERNATIVE FUEL

by Glenn Robertson



Nobel Laureate biochemist Melvin Calvin discussed the potential use of wild plants as alternative energy sources and warned of the ecological hazards of using coal at a gathering of about 300 on February 2, 1981 at the University Theatre.

Calvin, 69, who won his Nobel Prize in chemistry in 1961 for unraveling the mystery of the photosynthetic process in plants, told his audience that up to 10 percent of the nation's energy needs could be derived from a common desert weed.

The extract of *euphorbia lathyris*, a poisonous weed currently under cultivation at UC Davis is easy to refine, contains no sulfur and will work in place of gasoline, the UC Berkeley chemistry professor said.

"An area of 30,000 acres can produce 1,000 dry tons of plant material per day," Calvin said. "From this, 80 tons of oil and 200 tons of sugar can be produced. The

sugar can be fermented into 100 tons of ethyl alcohol, which also can be burned for fuel. Part of this fuel can run the refinery, so no extra energy needs to be brought in from the outside.

"An area the size of Arizona can produce, with only wild plants and no irrigation, enough oil to substitute for 10 percent of America's energy needs," he said.

Calvin's research for the past 20 years has focused on the nature of plantlife and the myriad uses of plants to benefit mankind. For instance, Calvin explained how the genes of one plant may be combined with those of *euphorbia* to form an oil-producing hybrid plant.

Calvin is confident that within a dozen years, artificial photosynthetic cells will be developed from the knowledge gained from studying plants. With these cells, he said, water molecules can be split into hydrogen and oxygen, two important elements, without the necessity of growing plants.

Oxygen is necessary to the respiration of most organisms, and the hydrogen collected from artificial photosynthesis can be burned as another alternative fuel source.

In his speech, Calvin examined potential energy sources, contending that worldwide oil production has already reached its peak and is on a permanent decline. He expressed his rationale for why coal is not the answer to America's fuel demands.

"We can clean up ashes and carcinogens from smoke stacks but the amount of excess carbon dioxide released into the atmosphere is twice that of oil," he said. "In time, the carbon dioxide will create a "greenhouse effect" in the earth's atmosphere, letting the sun's heat in but not out. The carbon dioxide will absorb heat reflected from the earth and keep it near the earth's surface."

The result of this, Calvin predicted, will be a warming of the global climate and the melting of the polar ice caps, gradually flooding low-lying cities. At a post-talk luncheon, Calvin said the use of coal as legislated by former President Carter would start the greenhouse effect within 20 years.

The great woman behind the great man is Gene Elle Calvin, who accompanies her husband to many of his lectures, and more than ever is a partner in his research.

It was Ms. Calvin who first introduced *euphorbia* to the Calvin's ranch near Santa Rosa to cut down on the gopher population. By sheer circumstance, and fortunately for the world of science, the husband and wife of 38 years noted the gummy sap of the weed resembled the hydrocarbon latex of rubber plants. Lab research bore out the potential of *euphorbia* sap as a usable hydrocarbon fuel.

Continued on page 4

Nobel Laureate Continued

Gene Elle Calvin also helps her husband raise plants for research, and translates the complexities of scientific language into readable prose.

Reflecting on his Nobel achievement, Calvin said, "If a person works just to get a Nobel Prize, then the work itself must not mean much to him."



WHERE ARE THEY NOW?

Over the years many faculty have left our Department for other positions. Most were full-time, temporary lecturers replacing regular faculty who were on leave. All have left an important imprint on our Department and its students for which we are grateful. We thought it would be of interest to our alumni and friends to know where they are today and what they are doing. Not all responded to our request for information, but we are happy to share news from those who did. Others are invited to send information for next year's *Newsletter*.

FILLMORE FREEMAN was an organic faculty member in our Department during the period 1965-73. Fil left in 1973 to assume a position at UC Irvine where he is presently Professor of Chemistry. Since he has been at UCI he has received appointments as a visiting professor at the University of Illinois (1976) and the Max Planck Institute for Biophysical Chemistry (1978-79). He also served as Assistant Dean of the School of Physical Sciences at UCI in 1974. He was named an Alexander von Humboldt Stiftung Fellow in 1978, 1979 and a Fulbright-Hays Senior Research Scholar in 1977-78. Among his current research interests are chromyl chloride and chromyl acetate oxidations, and malononitrile and sulfur chemistry.

JOHN HUTCHINS served as a lecturer in organic chemistry during 1974-76 and is now a tenured Associate Professor of Chemistry at Buena Vista College, a small private liberal arts institution in Storm Lake, Iowa. He reports that he teaches everything from general chemistry to physical chemistry while maintaining a vigorous, funded research program in borohydride and nitrosamine chemistry. Among duties outside the Chemistry Department he has run the campus Film Society (about 50 films) and serves on the Faculty Senate.

HONORS TO CURRENT STUDENTS AND NEW GRADS

David Chernik
Shahla Roohani

Union Oil Summer Research Fellowship

Paul Chinn
Chandrika Patel

Rachelle Awards (Outstanding Chemistry Graduate Students)

Paul Chinn
Kouros Hakim-Afzal

California Foundation for Biochemistry Research Summer Research Fellowships

Diana Delatore
Gary Steelman

Department Honors
Toni Horalek Memorial Award

Diana Delatore
Betty Korber
Gary Steelman

Chemistry Alumni Scholarships

Marianne Denny
Bette Korber

Election to Phi Beta Kappa

Marianne Denny
Jack Long

Merck Awards in Organic Chemistry

Mario Fernandez
Duane Smith

Rachelle Laboratories
Summer Research Fellowships

Pamela Hubler
Melissa Peters
Mark Phillips
Clayton Shepard
William Shoemaker

Atlantic Richfield Academic
Excellence Award for Chemistry Majors

Bette Korber

Outstanding Senior Award,
School of Natural Sciences
American Institute of Chemists Award
Dean Rhodes Memorial Award
Phi Beta Kappa \$500 Fellowship
Chemistry Department Analytical Award
Johnson Outstanding Thesis Award (1980)
Nalco Chemical Co.
Summer Research Fellowship

PENNY CAMERON LECOUTEUR (Lecturer 1967-68) teaches at Capilano College, North Vancouver, B.C., Canada and heads up the Department of Chemistry, Physics and Geology. She and her husband, Peter, and children Tim (6 yrs) and Alan (3 yrs) will visit New Zealand, her homeland, for a six-month period.

vision of five lab technicians and research on various aspects of natural gas recovery from landfills. Prior to joining Getty, John was Chief Analytical Chemist for Lee Pharmaceuticals.

KENNETH LEGG (1969-78) is R&D manager for Instrumentation Laboratory, Inc. in Lexington, Mass. His group consists of three PhDs and three BS chemists and is expected to grow considerably in the coming year. His wife, Ardelle, is a science librarian at Boston University. Ken and Ardelle are avid sailors and own a 27-foot sail boat which sleeps five. They enjoy cruising the Maine and New Brunswick coasts. While at CSULB Ken taught courses in analytical chemistry.

GRANT WILLSON (Lecturer, 1973-74) spent three years at UC San Diego, first as a postdoctoral associate with Dr. Murray Goodman and subsequently as a lecturer and then as a temporary Assistant Professor. His research at UCSD involved peptide synthesis and resulted in numerous publications. In 1977 Grant left UCSD, accepting a position at IBM's Research Laboratory in San Jose. He now manages a group of ten chemists in the Organic and Polymer Materials Department. He states, "My perception of polymer chemists as "synthetic organicists" who didn't quite make it or had retired, has been reversed completely. I am now convinced that we should have given polymer chemistry greater emphasis in both our lecture and lab courses and in physical chemistry courses."

JOHN PETTUS (Lecturer, 1976-79) is Research Chemist at Getty Synthetic Fuels. His time is divided between super-

OVERCOMING FEARS AND OBSTACLES

by Glenn Robertson



Chemistry's outstanding graduate of 1981, Bette Korber, overcame a tremendous lack of confidence she said was instilled in her by a 10th grade science teacher to later embrace both the physical and biological sciences at the university level and rise to the top of her class.

"It's just over the last two years that I have been thinking of myself more as a scientist than as a woman trying to be a scientist," she said. The 22-year-old graduate has been selected the Chemistry Department's outstanding student of the year, and was also named outstanding graduate for the School of Natural Sciences.

She has been accepted directly from her undergraduate studies into physical biochemistry doctorate programs at such prestigious institutions as MIT, Caltech, UC Berkeley, UC Davis and the University of Maryland. Of these, MIT, Davis, and Caltech offered research fellowships, freeing her from teaching. She has accepted the offer from Caltech.

Her 3.96 GPA includes two B's in art and ballet. "I started out college thinking I'd do badly, but teachers here went out of their way to encourage me," she said.

Originally an English major, she couldn't resist an old curiosity for biology and took some classes. She was hooked for the next three years. Korber said, "Each time I began the prerequisite physics and chemistry classes, I was very insecure. But they became a new love each time." She switched to chemistry in 1979.

Korber finally branched into all three—biology, physics and chemistry—and combined them into a "physical approach to biological chemistry. That looks at the way the molecules of life function in relation to one another.

"I haven't narrowed myself down yet, but there are all kinds of things that fascinate me in genetics, like DNA-replication mechanisms and protein synthesis.

"I am learning to define myself by my own potential," she explained. "My training has some validity now, and my scientific opinion is worth taking seriously, which it wasn't before.

"I'm still shy, but really excited, about these changes. I'm not at all reluctant. It's funny, though, how we can be scared of failing at those things that matter most to us."



ALUMNI FUND

We are pleased to acknowledge contributions to the Alumni Fund by former students and faculty. Contributions totaled \$1,062 in the past year, including matching funds from some alumni employers. Funds generated were used to support the Chemistry Seminar program in the Spring semester of 1981 and to fund several student awards. Your loyalty to the Chemistry Department means much to the faculty who have invested themselves in helping to shape your careers. Although the Department receives support from the State of California, there are many worthwhile projects for which state funds are not available. We invite other alumni to join those listed below in helping to fund important Departmental activities.

Make checks (no gift too small) payable to the Chemistry Alumni Fund. The University Alumni Association is notified of your gifts to the Department, and your support will be acknowledged in alumni publications.

Chris Appleton
Salvador Barajas
Robert K. Blair
*Ansel Calloway
Linda Co-Sarno
Stephen Fritch
*Rick T. Goyt
Scott D. Greer
Richard L. Jacobs
Robert B. Henderson
David Kanne
Tina M. Kishishita
Kenneth L. Marsi
Marianne Marsi-Manning
Patrick A. McKay
Michael N. Nishina
Robert K. Ono
Josh D. Prager
A. G. Tharp
*W. A. Thomasson

*Employer matched contributions.

VISITING PROFESSOR CONTINUES HEMOGLOBIN MIMIC RESEARCH

Richard Partch, Associate Professor of Chemistry at Clarkson College of Technology in Potsdam, New York, returned to his native city for a 1980-81 sabbatical leave appointment at CSULB. His position provided an opportunity for him to interact with students and faculty at CSULB and to get reacquainted with educational events and trends taking place at Long Beach since he became a college professor and research chemist.

Born in Long Beach, Partch attended Wilson High School and Pomona College. He received his PhD in organic chemistry at the University of Rochester in New York. From 1962 to 1965 Partch was assistant professor at New Mexico Highlands University. In 1965 he joined the faculty at Clarkson, a private school reputed for excellence in science and engineering and granting BS, MS and PhD degrees.

Since 1972 he has directed much of his expertise towards the synthesis of specially designed molecules to act as mimics of hemoglobin. After arrival at CSULB Partch continued his quest for hemoglobin mimic compounds and was successful in finding new synthetic routes to the chemicals needed in the final phases of the project. In addition he developed a synthesis for a new phthalocyanine dye soluble in several organic solvents and exhibiting strong, bloodred fluorescence. This latter work led to continuing collaboration with CSULB Assistant Professor Linda Mc Gown, having expertise in fluorescence spectroscopy, and M.S. student Rith Thuy-Boun. Undergraduates Liz Wood and Rob Guerra also contributed by preparing adamantane derivatives and trying several new reactions on them.

In addition to the studies mentioned above Partch initiated research collaboration with Professor Bob Loeschen. Their mutual interests in organic photochemistry found a common goal in studying the synthesis and products of photolysis of vinyl iodides.



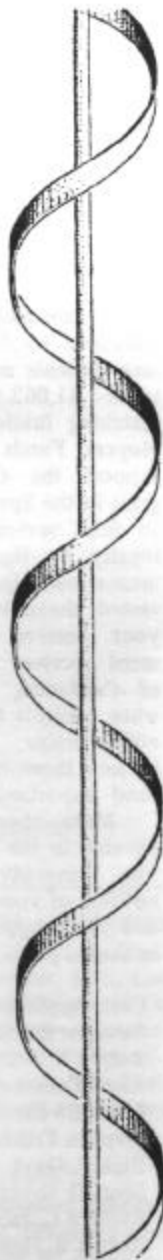
READ 'EM AND GROAN!

- If you're not part of the solution, you're part of the precipitate.
- Chemistry professors never die, they just fail to react.
- Got mole problems? Call Dr. Avogadro at 6.02x10²³.
- Schrodinger cut the wave equation down to ψ 's.

FUTURE PLANS OF SOME OF OUR GRADUATES

(This is a partial list summarizing information available to date. We apologize for any oversights and we will include more data in the next edition, Editor.)

✓ Andon, Mark BA '81	U. of Maryland PhD program in food science
Bjorgan, Robin D. MS '81	Hughes Aircraft Science teacher
Blanco, Elisa BA '81	Drake U. Pharmacy School
Catalano, Thomas BA '80	UCSD PhD program
✓ Chinn, Paul C. MS '81	George Washington U. Medical School
✓ Cooper, David K. BS '81	UCI PhD program
✓ Delatore, Diana L. BA '81	U. Kansas PhD program
Delestang, Jocelyn N. BA '81	Designer/Draftsman
Denny, Marianne BA '81	USC Medical School
✓ Essien, Herbert E. MS '81	U. of the Pacific PhD program
Erwin, Timothy P. BA '81	USC Pharmacy School
Hall, Ralph M. MS '80	PGP Industries, Santa Fe, CA
✓ Harmon, Thomas BA '81	USC PhD program
Havey, Janet L. BA '81	Rachelle Laboratories, Long Beach, CA
Hudspeth, Richard L. MS '81	Research Fellow, Kerckhoff Marine Laboratories, Caltech
Huscroft, Kanella V. BA '81	Hughes Aircraft Co. Caltech PhD program
✓ Korber, Bette T. BS '81	USC Dental School
Kurst, Bradley BA '81	USC Pharmacy School
Lieskovan, Edward M. BA '81	USC Pharmacy School
Logsdon, Margaret L. BA '81	Loma Linda U. graduate program in public health
Long, Huong-Anh Ngo BA '81	UCSC PhD program
✓ Manes, Lawrence V. BA '81	CSULB MS program
Menke, John BA '81	CSULB MS program
Nasser-Moaddeli, Sharareh BS '81	
Neely, James	U. of Medical Sciences, Kansas City School of Osteopathy
Phillips, Mark C. BA '81	UCLA Dental School
✓ Sawada, Ikuhisa MS '81	UC Davis PhD program
Seaton, Bret MS '81	Beckman Instruments, Brea, CA.
Schaller, Robert C. BA '81	Emory U. Dental School
✓ Schneider, Erika BS '81	UCB PhD program
Schneider, Terrence L. MS '81	Rockwell International, Downey, CA
Shepard, Clayton BA '81	U. Minnesota Dental School
Shimazu, Cheryl L. Yuen MS '80	Nalco Chemical, Carson, CA
Souza, Steve MS '81	UCSF Medical School
✓ Steelman, Gary BS '81	U. Wisconsin PhD program
✓ Thuy-Boun, Rith MS '81	Oregon State U. PhD program
Tietavainen, Gary MS '81	Exlog-Smith, Long Beach, CA
Vanderwerff, Meta R. BA '80	CSULB MS program
Vedenoff, Gary BA '81	Northwestern University Dental School
✓ Yamaguchi, Kenneth MS '81	IICR PhD program



REPORT FROM THE STUDENT AFFILIATES

by Diana Delatore

We are pleased to report a successful and enjoyable year for the club. Through our activities we have encouraged student involvement in the Department and have sought to develop a close-knit relationship between students and faculty. Along with this, we have provided services for the students and kept both faculty and students informed on the "happenings" in the Department.

At the beginning of the year the Student Affiliates presented a library exhibit which described chemistry in its various aspects. Designed by students and coordinated by Dr. Cohlberg, these eye-catching displays provided the layperson with a taste of chemistry. The four topics covered by the displays were genetic engineering, energy and pollution, coordination chemistry, chemical instrumentation, and chemistry of everyday life.

The Student Affiliates hosted several speakers. First was Dr. Marsi, who gave his traditional orientation to new chemistry majors. From the Chemistry Department Advisory Council, Dr. Farrar (Rockwell International) spoke on "Careers in Industrial Chemistry." Dr. Casey, the Rachelle Visiting Distinguished Lecturer, from the University of Wisconsin, gave a seminar on "Chemicals and Fuels from Coal," and Dr. Thummel, from the University of Houston, discussed his work on "The Chemistry of Small Ring-fused Aromatic Molecules." In addition, we scheduled informal discussions with several of the regular seminar speakers concerning graduate study at their respective universities.

Other club activities included touring the U.C. Riverside Chemistry Department, participating in the School of Natural Sciences open house, and selling C.R.C. handbooks.

On a less academic note, the Student Affiliates organized the annual Christmas party (a big thank you to the Masi's who annually let us use their home for this event), and the pizza awards banquet. These were financed by the sales of lab glasses and aprons at the beginning of each semester. Excess money generated by these sales was donated to help support undergraduates doing summer research.

Congratulations to the new officers for the 1981-82 academic year: Bill Shoemaker-President, David Moromisato-Vice President, Annie Luu-Secretary, Arlene Oto-Treasurer, Barbara Tanisawa-School of Natural Sciences Council Representative.

Finally, we are grateful for the strong support shown by the Chemistry faculty

Continued on page 7

•• Six chemistry faculty are members of Phi Beta Kappa, the highest percentage of any department on campus.

•• Two of the nine students elected to Phi Beta Kappa for the 1980-81 graduating class of 3,000 were chemistry majors.

Continued from page 6

and staff. We would especially like to thank Dr. Jensen, our club advisor, and Dr. Marsi, the Department Chairman, whose guidance and unwavering encouragement greatly contributed to the club's success.

The officers of the Student Affiliates:

Diana Delatore	President
Jim Denman	Vice President
Gary Steelman	Secretary
Bill Shoemaker	Treasurer
Gary Jackson	School Council Representative



NEWS FROM THE ALUMNI

1958

ANTHONY, PHILIP L. BS '58, MS '60 USC, retired as a County Supervisor in Orange County. Phil works with Rockwell International and lives in Westminster.

1959

EMERSON, MORGAN BS '59, after many years teaching science and mathematics at Jordan High School in Long Beach, is now a science teacher at Long Beach Polytechnic High School.

1961

DORER, FRED BS '61, PhD University of Washington '65, is Professor of Chemistry at San Francisco State University. Fred was a seminar speaker in our department on March 11, 1981 presenting a talk on "Product-Energy Distributions in Photochemical Reactions: Mechanistic Implications."

PASSCHIER, ARIE A. BS, PhD '68 University of Washington, is employed by the Autonetics Division of Rockwell International doing contamination analysis in inertial instruments.

1965

TENNY, WILLIAM BS '65, is Marketing Manager for Amsco Instrument Company, dealers in Turner spectrophotometers.

THOMASSON, W. A. (Bill) MS '65, is a Technical Account Specialist with the public relations firm Burson-Marsteller. Bill's wife Penny was also a graduate student in our M.S. program.

1967

BERG, EUGENE A. MS '67, PhD '70 UCLA, is the newly elected Department Chairman at Moorpark College.

1968

HESTER, NORMAN BS '68, PhD U.C. Riverside, heads up an environmental research group at Occidental Research in Irvine.

BOWMAN, REID BS '69, MS '71 Princeton, PhD '76 U.C. Santa Barbara, is employed by Dow Chemical in Pittsburg, California. Reid and Paulette have a new daughter, Jessica Robin, born Nov. 26, 1980. Congratulations to you both!

NELSON, JOHN S. BS '69, after working for five years with PPG Industries in Torrance, enrolled in Loyola of Los Angeles Law School and received his Juris Doctor degree in 1973. He is presently affiliated with Hagenbaugh and Murphy and specializes in product liability litigation, particularly with chemical products and processes, and finds his undergraduate chemistry degree invaluable in litigation.

POWELL, CLOIS E. "Bert" BS '66, MS '69, PhD '75 Rutgers University, works at Ashland Oil Company in Dublin, Ohio where he started a latex laboratory. Bert is senior chemist.

RAWDING, BURTON "Ron" BS '69, recently accepted a technical sales position with Pilot Chemical. Ron completed a degree in business administration at CSULB last year. He is West Coast sales representative to personal care, detergent and cosmetic industries.

VALENTINE, GARY MS '69, is now a staff engineer in the Corporate Office of Manufacturing Technology, Hughes Aircraft Company.

1970

LASSIGNE, CLAUDE R. BS '70, PhD '75 Simon Fraser University, is an instructor at Simon Fraser University and also at Douglas college in New Westminster, B.C. He continues his research on NMR studies on magnetically active isotopes of Sn, Ru, and Te.

MACPHEE, ROBERT BS '70, is a group leader at Nichols Institute in their new facility at San Juan Capistrano.

REEVE, JOSEPH R., JR. MS '70, PhD UCLA, is a research biochemist at UCLA. His fields of major interest are gastrointestinal peptides, their purification and characterization.

1971

GIVENS, BILL BS '71, is working toward his MBA at the University of Colorado, Colorado Springs.

MERRILL, JIM BS '71, now works at Nutrilite Products in Buena Park, CA, analyzing cosmetics, vitamins, drugs, and raw materials. Jim writes, "I often think about the University and am grateful for the fine education I received there from 1968-1971."

OBERLANDER, JOSEPH MS '71, PhD University of Utah, and his wife Paulette, have a new son, Joseph Glenn, born November 21, 1980. They now live in Azusa.

1972

BURNS, FRANK BS '72, PhD Brown University 1976, is employed at Sandia Laboratories in Albuquerque, New Mexico as a group leader in mass spectrometry.

BURROS, BYRON MS '72, PhD '75 Rutgers University, has been promoted to Research Scientist in the Biochemistry and Flavor group with Carnation. He taught a UCLA extension course in instrumental analysis during the winter quarter of 1980. The Burros have two sons, Scott 3-1/2 and Eric 6 months.

FRISBEE, ROBERT H. BS '70, MS '72, PhD '78 U.C. Santa Barbara, is employed at the Jet Propulsion Laboratory in Pasadena.

HOOVER, MICHAEL BS '71, MS '72, is director of the Long Beach Police Department Crime Laboratory. He and his wife, Diane, have a new baby, Jennifer Jo.

1973

BROWN, ARTHUR BA '73, is a science teacher at Marina High School in Huntington Beach.

JACOBS, RICHARD MS '73, is a polymer consultant in areas pertaining to medical and dental elastomers and fire retardants.

RONA, ROBERT MS '73, PhD 1978 Rutgers University, is a research chemist at Avery International in Pasadena doing work in the area of polymer chemistry relating to adhesion. He reports that it is a "sticky business." He is married and has two daughters aged 2 and 4.

1974

FLORES, RANDY BS '74, is outgoing editor of SCALACS, the official publication of the Southern California Section of the American Chemical Society. Randy is now alternate councillor for the Section.

LLORT, FRANCISCO BS '74, PhD '78 Princeton University, and his wife Maureen have a new daughter, Erin Maureen, born April 11, 1980.

SOYKIN, CYNTHIA TANIHARA BS '74, formerly with West Coast Technical Services, is now an employee of Rockwell.

1975

CALLAWAY, CHESTER BA '75, recently married Belinda Brown. He is on three years duty as a cavalry NCO (7th Cavalry) near Schweinfurt, Germany after having served at Biggs Army Airfield, Ft. Bliss, Texas.

1976

BEENINGA, LORI BA '76 is head resident at the Sepulveda Dental Clinic in Los Angeles. She received a DDS from UCLA Dental School in June 1980.

CRIDER, DON BA '76, was promoted to Refinery Superintendent at Hunt-Wesson Foods in Fullerton, CA.

GREER, SCOTT D. MS '76, married Sue Evans in June 1980. He is beginning an internal medicine internship at the Los Angeles County-USC Medical Center after receiving his M.D. from the University of Utah Medical School.

THIBEAULT, ANITA BS '76, is a quality control manager at Shiley, Inc., maker of heart valves, blood oxygenators, tracheostomy tubes, etc. She is also a quality assurance/regulatory compliance consultant.

UEDA, DEAN BA '76, has received his Doctor of Pharmacy Degree from UCSF in June 1980 and has returned to Southern California.

UNVER, ERCAN MS '76, has completed work for the PhD and is a member of the faculty of Ege University in Turkey.

1977

BASIULIS, DANUTE MS '77, is employed by Hughes Aircraft Co. in the Technology Support Division. She has been promoted to the Group Head of the Polymer Formulations Group and is the coauthor of a paper entitled, "Oxidation of Aromatic bis-Amides by Thallium (III) Trifluoroacetate," *Tetrahedron Lett.*, 22, 1175 (1981).

BELL, KENNETH BS '77, is completing his PhD in organic chemistry at UC Irvine and is working with Professor Larry Overman.

GOYT, RICK T. BA '77, works for Syva Company in Santa Rosa as a salesman for medically-related products.

KANNE, DAVID MS '77, is completing his PhD with Dr. Rapoport at UC Berkeley and writes, "My project involves synthesizing psocalens and analyzing their DNA photo-products. We have recently succeeded in isolating sufficient quantities of these pyrimidine-psocalen adducts to allow for a complete structural characterization."

LEE, RICHARD BA '77, has completed his medical degree at Hahneman College of Medicine and is interning at the VA Hospital in Long Beach.

NGUYEN, MYNGOC BS '77, graduates from UCSF medical school this Spring and will specialize in pediatrics, doing an internship at UC San Francisco.

SMITH, RANDALL BA '77, recently accepted a position with Hughes Aircraft in El Segundo after working several years as a chemist in the Portland, Oregon area.

WRIGHT, SANDY STONER MS '77, works in the Nutrition Department at UCLA in food research. Sandy was married to Chris Wright in 1980. Chris is completing an MS degree in electrical engineering at UCLA.

1978

LOMELI, LUIS BA '78, is completing a degree in medicine at the UCLA School of Medicine.

MARSI-MANRING, MARIANNE BS '78, continues work for her PhD at UCLA in organometallic chemistry. Marianne received an outstanding teaching assistant award for the Fall quarter and is president of the Graduate Student Association.

PRITSOS, CHRIS A. MS student '76-'78, is a student in the PhD program in biochemistry at the University of Nevada, Reno.

SCHROEDER, MARTIN "Marty" MS '78, was married in August of 1980 to Eileen Wassermann, a graduate of UC Berkeley, 1974.

SWEEN, CRAIG BA '78, attends Northwestern University School of Dentistry. He reports that "dental school has been an excellent experience, although I had to make a few adjustments . . . the curriculum is mindboggling!" His wife, Roni, was a marine biology major at CSULB. They have a new son, Chris.

WUENSCHHELL, GERALD BS '78, is a PhD candidate at USC, working with Dr. Charles McKenna's research group.

1979

ANGELETAKIS, CHRISTOS MS '79, is nearing completion of his PhD at UC Irvine working with Dr. Fillmore Freeman, a former faculty member of our Department. Dr. Tom Maricich at CSULB is a joint sponsor of this project. Two research papers are *in press*.

BARAJAS, ERIC BA '79, entered Dental School at UCLA in the Fall of 1980.

BANNON, STEVE BS '79, contrary to the report in last year's *Newsletter* that he was attending seminary, is happily employed in more secular work with Union Oil, Brea, CA.

BOGHOSSIAN, GOORGEN BA '79, is in the Class of '83 at USC School of Pharmacy.

BUUS, DELYSE BA '79, is in her second year of medical school at UCLA and says, "Thank you for the *Newsletter*. It is always interesting to me to see what is going on at CSULB and what my old classmates are up to."

CASTELLINO, STEVE BS '79, is working for his PhD at UC Riverside with Dr. James Sims.

DAVENPORT, WILLIAM BS '79, is employed at West Coast Technical Service, Inc. in Cerritos, CA. On February 28, he and Karen Messana were married. Bill will enter the MBA program at UCLA in the Fall of 1981.

ESSINGTON, JOHN '79, is a partner in MTA, Inc. (Molecular Technology Associates, Inc.). Synthesis of Nucleotides is the specialty of the house.

FASHEH, BASSAM "Sam" BS '79, is a chemical analyst at Amin Oil and is studying for his MBA at West Coast University.

GALLARDO, PAUL BS '79, is in his third year of medical school at USC.

HEADRICK, STEPHEN BA '79, employed for several years in the Chemistry Issue Room at CSULB, is now on the staff of the Electro-optical Division of Hughes Aircraft in El Segundo.

IP, WAI MS '79, continues as a graduate student at USC with Dr. George Olah.

JOHNSON, THOMAS BS '79, is a graduate student in the Department of Chemistry at the University of Washington, Seattle.

JONES, STEVE MS '79, is a graduate student at UC Riverside, completing a doctorate in analytical chemistry with Professor Donald Sawyer.

JORDON, PAUL BA '79, is a medical student at Chicago Medical School. He reports Chicago to be "hot and muggy." (His letter was dated August 30!)

MCKAY, PAT MS '79, is working at Genentech and having a great time! Also Craig Snider, MS '77 and Steve Souza, MS '81 have joined the company. (We hope you were involved in the stock plan!)

OLIVER, DAVID BS '77, MS '79, is a chemistry instructor at the newly-opened Oxnard Community College Campus.

PRAGER, JOSH BS '79, is working in an electrical/electronics group with McDonnell Douglas Astron. He does analytical work using atom absorption and dielectrometry.

ROLFING, MIKE '79, formerly with Rachele Laboratories and McDonnell Douglas, is now in dental school at the San Francisco campus of University of the Pacific.

WILSON, ED MS student '79, is laboratory supervisor for Brown and Caldwell in Emeryville, CA.

1980

BLAIR, ROBERT K. BA '77, MS '80, works at Bioresearch, Inc. in La Jolla doing solid phase synthesis of DNA.

BRISLEY, MARK W. BA '80, has recovered from surgery and is again a student at CSULB taking pre-dental courses. Best wishes and welcome back to CSULB.

CACHIA, VICTOR BA '80, is employed with Getty Synthetic Fuels in Signal Hill but will be entering dental school in the Fall of 1981.

CAREY, ANNE BS '80, is employed at Rachele Laboratories in Long Beach.

COFFMAN, FREDERICK "Fritz" MS '80, is a PhD candidate in Biochemistry at UC Riverside. Fritz has an August wedding planned.

DOWNES, GREG BA '80, has been accepted to the Medical College of Wisconsin, Milwaukee.

DUBOW, BRIAN BS '80, is Engineering Chemist for the Convair Division of General Dynamics in San Diego.

EIDSSNESS, MARLY '80, is a graduate student in chemistry at the University of Cincinnati. Marly plays in string quartets in her spare time.

GALUSKA, ALAN BS '80, is a PhD candidate at Cornell University.

HOLZNER, MICHAEL MS '80, works for the Air Resources Board in El Monte as a computer expert.

HONDA, DON BA '80, is a student at the UC San Francisco School of Pharmacy, Class of 1984. He is in the clinical pharmacy program. Don has been appointed class historian.

KISHISHITA, TINA BA '80, is completing her first year of pharmacy school at UCSF.

KLENCK, ROBERT BA '80, reportedly is enjoying graduate school at the University of Arizona where he is working on a graduate degree in organic chemistry.

LEE, DEIDRE R. BA '80, married Reuben T. Uku, a graduate of CSULB in microbiology. They have a son, Maimoye Keenan Uku.

MARSI, SCOTT BA '80, is a chemistry graduate student at San Diego State University specializing in analytical chemistry and doing thesis research with Dr. Dale Chatfield. Scott received a Chlorox Fellowship for the Summer of 1981.

MONETTE, DONALD R. BS '80, is employed with Rockwell International in Downey.

NGHIEM, BA BS '80, is a graduate student in medicinal chemistry at the University of Kansas. She is a research student of Dr. Takeru Higuchi, our first Rachele Distinguished Visiting Lecturer.

O'NEILL, DOUGLAS BA '80, is employed by American McGraw in their metabolic R & D laboratories.

SEQUERA, DEAN BA '80, still works for the Los Angeles County Sanitation Districts and is pursuing an MBA at CSULB in the evenings.

SHIMAZU, CHERYL (Yuen) MS '80, works at Nalco Chemical in Carson.



- The first BS degrees were granted in 1958. Three were awarded, the candidates being Phillip L. Anthony (with distinction), Robert C. Barrett, and Lloyd S. Peak (with great distinction).



SCIENCE DAY OPEN HOUSE

On Saturday, April 11, The School of Natural Sciences hosted about 1000 high school students and parents at an open house. Together with the other science departments Chemistry had laboratories open for inspection, instruments were demonstrated, and graduate students were carrying on research activities.

SCIENCE BUILDINGS RE-NAMED

Honoring former President of this University, P. Victor Peterson, the science buildings were re-named Peterson Hall. What were formerly called SC1, SC2, and SC3 are now PH1, PH2, and PH3. Ex-president Peterson had a PhD in chemistry from Stanford University; he died April, 1979.

CSUC CHEMISTRY CONFERENCE

This Department hosted a meeting of CSUC-system Chemistry Department chairpersons on May 1 and 2. Highlighted by lunch at the system headquarters and a conference with Chancellor Glenn S. Dumke, the program comprised an intensive series of discussions of budgetary, educational, and administrative problems facing the several departments. Chairmen from all nineteen departments attended.

- The first BA degrees were conferred in 1970 with eleven degrees.
- The first MS degree in chemistry was granted to Robert Hutchins in 1961. Bob subsequently received his PhD from Purdue University and is now Professor of Chemistry at Drexel University in Philadelphia.

GLENN ROBERTSON, GUEST COLUMNIST

Two well-written articles with a Glenn Robertson by-line appear in this year's *Newsletter*. These articles were originally featured in the student newspaper, *The Daily Forty-Niner*, during the past academic year. Because of their quality and potential interest to the readership of our *Newsletter* they are included in this issue. Glenn graduated with a BS degree in Geology in May. He has aspirations to become a successful science writer, and from these samples of his work he is well on the way!



FEATURING CHEMISTRY STAFF

The Chemistry Department could not begin to function as an effective teaching and research unit within the University without the essential services and expertise provided by our eleven dedicated staff members. In this issue of the *Newsletter* two staff members are featured. Others will be introduced in future issues.

Robert Soukup, a graduate of CSULB in Industrial Technology, joined our staff in 1976 as an Electronic Equipment Technician. "I am responsible for the maintenance and calibration of the scientific instruments used throughout the Department in both the research and teaching labs.

"My position calls for varying talents, ranging from electrician when cords and switches on instruments wear out, to mechanic when vacuum systems need service, to metrologist when analytical balances need calibration, to spectroscopist when spectrophotometers are on the blink, to plumber when setting up gas handling systems, to storekeeper when stocking repair parts and chart paper, and to engineer when trying to figure out why an instrument doesn't work after someone conveniently misplaced the instruction and service manuals.

"In addition, I have a computer controlled gas chromatograph-mass spectrometer to maintain and operate, as well as teaching others in the Department to use

it and other complex instruments such as our nuclear magnetic resonance spectrometers."

Karen Knox is the Department's newest staff member, beginning work in March of this year. "I attended West Los Angeles College and UCLA where I received a BS in Biochemistry in 1977. While at UCLA I was involved in an undergraduate research project in the Department of Immunology. I learned how to use my scientific education "creatively" while characterizing the help factor from human lymphocytes exposed to poke weed mutagens.

"The first four years following college, I was employed at Harbor-UCLA Medical Center. Initially, I worked in Hematology, studying bloodclotting disorders. Two years later I moved into Oncology where cloning malignant tumor and bone marrow cells and studying the cultures for drug sensitivity were my primary functions.

"A desire to return to academic life brought me to my current position of Instructional Support Technician and "Chemistry Issue Room Ogre." My main duties are to prepare and assemble all necessary chemicals and equipment for numerous chemistry courses. Larry Herold and I share the responsibility of insuring that the Chemistry Issue Room is well stocked and running smoothly."

CHEMISTRY SEMINAR PROGRAM

We thought you might find our seminar program of some interest. It reflects the diversity of interests within our Department, and brings recent developments in chemistry to our faculty and students by outstanding chemists once each week. We regard the seminar program to be an integral part of our instructional program and to provide one of the best ways to allow faculty to remain current in chemistry. The seminar coordinator for 1980-81 was Dr. Jeff Cohlberg who put together an excellent series. The program for the spring semester of 1981 was supported in part by the Alumni Fund and topics and speakers were:

Dr. Gordon Sato (UC San Diego): *A Unifying Approach to Cell Culture.*

Dr. Peter Dervan (Caltech): *Molecular Recognition of DNA by Polynuclear Intercalators.*

Dr. James Sudmeier (UC Riverside): *Metal NMR of Insulin, Calmodulin, and other Zinc and Calcium Binding Proteins.*

Dr. Alan Balch (UC Davis): *Oxygen Activation by Iron Porphyrins.*

Dr. Maria Linder (CSU Fullerton): *Alterations of Cooper Metabolism in Cancer.*

Dr. Christopher Foote (UCLA): *Photochemical and Biochemical Reactions Involving Oxygen.*

Dr. Fred Dorer (CSU San Francisco): *Product-Energy Distributions in Photochemical Reactions: Mechanistic Implications.*

Dr. Robert Bates (U. of Arizona): *New Antitumor Agents From Plants.*

Dr. Richard Olsen (UC Riverside): *Gamma-Aminobutyric Acid Receptor-Ionophore Proteins in Mammalian Brain.*

Dr. Stanley Pine (CSU Los Angeles): *Methylation and Other Organic Syntheses Involving Transition Metals.*

Dr. John Bercau (Caltech): *Homogeneous Activation of Carbon Monoxide.*

Dr. Dale Chatfield (San Diego State University): *Surface Ionization Mass Spectrometry of Organic Molecules.*

Dr. Gary Wilcox (UCLA): *Regulation of L-Arabinose Metabolism in E. coli and Salmonella Typhimurium.*

Dr. Fillmore Freeman (UC Irvine): *Intermediates in the Oxidation of Disulfides.*

MORE STAFF NEWS

Reva Mae Walther recently received recognition for ten years of loyal service to the University. Reva has been secretary in our Department during that time and also has the distinction of being the senior staff member.

Suliana Tukia and her husband, Dan, are the proud parents of a new son, Masese Taniela. (Masese is the Tonganese equivalent of Moses.) Suli has been a secretary in the Chemistry Department since 1975. The Tukias have a daughter, Aleina, who is two years old.

●● Approximately 45% of our 250 chemistry majors are women.

CSULB CHEMISTRY DEPARTMENT NEWSLETTER

An annual publication of the Chemistry Department for past, present and future students and for faculty and friends of the Department.

News items and photos are welcomed and may be sent to:

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