



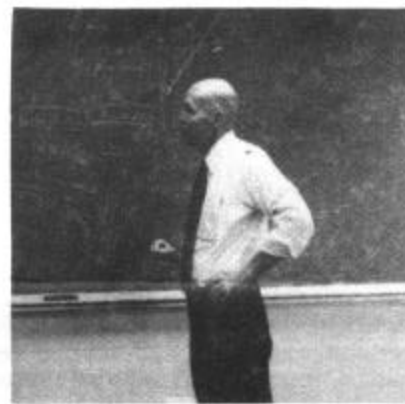
California State University, Long Beach

CHEMISTRY DEPARTMENT

NEWSLETTER

July, 1978 No. 3

The profession of professing enjoyed two of its high moments on campus this spring. Shown in full exposition are two distinguished visitors to the department—Professor Arthur Kornberg, Nobel Laureate from Stanford University on the left and Professor Richard Schowen of the University of Kansas (right). Stories on each appear herein.



THE CHAIRMAN'S MESSAGE

At the time this message is being written the future of our Department is shrouded in uncertainty because of the fiscal effects of Proposition 13. Although CSULB's operating funds do not come directly from property taxes, it is expected that there will be considerable erosion of support as funds are redirected to areas more immediately affected such as the public schools and various city and county services. I am hopeful that the quality of our department, which has evolved through years of effort and planning by dedicated faculty, will not be too seriously impaired. Only time will tell.

I would like to devote the remainder of this column to brief comments about faculty activities during the past year. As you will see, it was an eventful period. *Peter Baine* spent a sabbatical year at UC Santa Barbara pursuing interests in spectroscopy. *Roger Bauer* has been appointed Dean of the School of Natural Sciences. *Edwin Becker* has chaired the University-wide grievance committee—a sort of court of appeal for faculty who feel they have received unfair personnel decisions. *Jack Berry* has received several grants and has a flourishing research group in clinical chemistry. *Jeff Cohlberg* served as an active chairman of the School of Natural Sciences Curriculum Committee.

Jerry Devore is having fun with our new Tectronix minicomputer solving theoretical chemical problems. *Charles "Pat" Dunne* received a Heart Association grant and is making strides in his research program; Pat also coordinated our very successful seminar program last year. *Dorothy Goldish* is revising her successful

text, "Basic Mathematics for Beginning Chemistry." *Ed Harris* and *John Pettus* are collaborating on a research project involving extracting organic metabolites from seaweed. *Bob Henderson* is concluding a sabbatical year at King's College in London, writing a lab text and doing historical research in chemistry.

Richard Hunt is completing a textbook for general chemistry students to be published by Goodyear Press. *Jim Jensen* received an NSF grant to study the kinetics of acetal hydrolysis. *Gene Kalbus*, with his brother *Lee* (CSU, San Bernardino) and *Van Lieu*, have been conducting courses in energy for grade school teachers, sponsored in part by Southern California Edison. *Julie Kierbow*, who has been on extended sick leave, is living in Sun City, Arizona. She plans to retire in August of this year. We are happy to learn that she is recovering steadily. *Ken Legg* has resigned to take a position with Instrumentation Laboratories in Lexington, Mass. We will miss him and his wife *Ardelle*, who is currently head science librarian at CSULB. *Bob Loeschen* and *Roger Bauer* have coauthored a chemistry textbook for nursing students which will appear in 1980. *Tom Maricich* has attracted a large number of students who are working with him in organosulfur chemistry; some compounds are potential anticancer agents.

Ken Marsi received an NSF research grant for work in phosphorus chemistry; he has been elected Department Chairman for an additional three years. *Darwin Mayfield* is acting editor of this Newsletter in spare moments found during his work as Director of Research for the University. He reports a record year for grants and contracts received, approxi-

mately \$3.7 million. *Clyde Osborne* enjoys life as our first emeritus professor. *Lou Perligut* continues as coordinator for the lively Biochemistry Masters Program. *Henry Po* has an active research group doing inorganic reaction kinetics; he continues in his third year as coordinator of the Chemistry M.S. Program.

John Roberts, a visiting lecturer, will spend the summer of 1978 teaching and doing research at UCLA. *Nail Senozan* has returned after a sabbatical year at Izmir University in Turkey where he was involved in Mediterranean marine research. *Don Simonsen's* portrait is being painted and will be hung with those of former University Presidents, P. Victor Peterson and Carl McIntosh; Dr. Simonsen was President in 1969-1970, a time of nationwide campus unrest. *John Stern* is still pursuing his interests in solution calorimetry and has added a homemade, highly accurate microcalorimeter (dubbed the "Speed Queen") to his collection.

A. G. Tharp now qualifies as "Colonel" Tharp, being a part-time gentleman Kentucky tobacco farmer. *Ron Wikholm* leaves CSULB to assume a position in the Department of Chemistry at the University of Connecticut. *Les Wynston* has been giving extension courses in wine tasting and has led tours through European wine-producing areas for the last two summers.

Lastly, let us hear from you! News of yourself, family and job status is always well received. We post your cards and letters for the faculty and staff to read, and we will include information about you in our next Newsletter. Best wishes to all of you from all of us!

Ken Marsi

**CSULB CHEMISTRY
DEPARTMENT NEWSLETTER**

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

News items are welcomed—even solicited—and may be sent to:
Newsletter

Department of Chemistry
California State University, Long Beach
Long Beach, CA 90840

Editor-this-issue-Darwin L. Mayfield

**SAACS ENJOYS VIGOROUS
YEAR**

The 1977-78 academic year proved to be a very fruitful one for the CSULB chapter of the Student Affiliates of the American Chemical Society. We are proud to report that our organization was one of the most active and vital student associations on campus.

As in the past, we Student Affiliates devoted a major portion of our effort toward providing programs for Chemistry students that were designed to be entertaining and informative. Toward that end, the Student Affiliates sponsored several speakers from the off-campus chemical community as well as from within the Chemistry department itself. The speakers included: Ms. Viki Jones from the Southern California Gas Company speaking on *Liquified Natural Gas*, Dr. Fred Caserio of Magna Corporation speaking on *Careers in Industrial Chemistry*, and Dr. Jack Berry of CSULB speaking on *Careers in Clinical Chemistry*. Additionally, Dr. Leslie Wynston spoke to pre-professional students about their career goals and, of course, Dr. Marsi gave his traditional orientation for new Chemistry majors at the beginning of each semester.

Other activities included a tour to Cal Tech's JPL Laboratories and to the local Busch brewery (in conjunction with the Chemical Engineers). On a lighter note the Student Affiliates again organized a Christmas party for students, faculty, and staff which was a smashing success thanks to the warm hospitality of the Marsi's who kindly hosted the event in their home. Also noteworthy was the outstanding turnout for the Pizza Awards Banquet held annually at the Straw Hat Pizza Palace.

Finally an event which left a lasting impression on those who attended was the round table discussion with the visiting distinguished lecturer, Dr. Richard Schowen of Kansas University. This remarkable Scientist and Educator graciously allowed his brain to be picked by a dozen undergraduates on any and all

subjects pertaining to Chemistry. We feel confident that we are accurately reflecting the opinion of all who attended when we state that each of us took away a share of Dr. Schowen's inexhaustible enthusiasm for science as a result of his visit.

In addition to our traditional projects, the Student Affiliates were actively involved in the planning and implementation of student sponsored programs at all levels of student activity at CSULB. Among the larger scale programs that the Student Affiliates helped bring to fruition were the second annual Leadership Orientation Workshop sponsored jointly by the Associated Students and the Office of Student Activities, and the first annual School of Natural Science Career Day sponsored by the School of Natural Science Student Council. Both of these programs were judged to be quite successful and had campus-wide impact.

Beyond the depth of involvement in activities, however many and varied these may be, the true measure of a student association's vitality is exemplified in its ability to provide for the future in producing annually a new group of officers to carry on the tradition of involvement started in 1960 by the first group of Student Affiliates at CSULB. We feel that this task has been accomplished. The new officers: Tony McLaughlin—President, Diana Delatore—Vice President, Kirk Morgan—Treasurer, Brian Dubow—Secretary, Ken Branam—Representative to the School Council, and Mike Briggs—A.S. Senator, have already shown every indication of being a talented and creative group.

In closing we would like to express our sincerest gratitude to the faculty, staff, and most of all to the Chemistry students for their enthusiastic support and participation, without which the existence of the Student Affiliates, as a group, would have been meaningless.

The Officers of the Student Affiliates
Oren Shelley—President
Suzanne El Toraei—Vice President
Kathleen Cannon—Secretary
Shelley Bryce—Treasurer
Mike Briggs—School Council
Representative

**CHEMISTRY CONTINUES ACTIVE IN
WINNING GRANTS**

Chemistry led all departments of the University, in proposals submitted and was second in number of awards received

during the five year period July, 1972 to June 30, 1977 according to information in the *Annual Report on Awards for Research, Creative Activities and Special Programs* prepared by the Office of Graduate Studies and Research in cooperation with the California State University, Long Beach Foundation. Only proposals and awards involving funding sources external to the University were included.

In the past two academic years ending in May, 1978 Chemistry has continued its tradition of broad participation by department members in writing proposals. Thirty-eight proposals have been forwarded involving one or more of fifteen faculty members. Grants which resulted have usually been in the small to medium range. Sixteen grants totaling \$187,121 were received in the two year period.

Arnold Berry from Long Beach Heart Association for *Creatine Phosphokinase Isoenzymes of Heart Tissue*; from Muscular Dystrophy Association for *Peroxidate Damage to Cell Membranes in Duchenne Muscular Dystrophy*

Patrick Dunne from Research Corporation for *Regulation of Pyridoxal Phosphate-Dependent Enzymes by Monovalent Cations*; from Long Beach Heart Association for *Regulation of Heart Lactate Dehydrogenase*

James Jensen from National Science Foundation for *The Importance of General Catalysis in Acetal Hydrolysis*

Kenneth Legg from Research Corporation for *The Effect of Substrate Structure on the Suppression of Photoanodic Decomposition of Semiconductor Electrodes*

Van T. Lieu from Petrolane-Lomita Corporation for *Analytical Methods for Sulfur Recovery* (two grants); from City of Long Beach for *Analytical Studies of Oil Field Injection Waters* (two grants)

Tom Maricich from National Cancer Institute for *Potential Carcinostatic Sulfinyl Derivatives* (two grants); from National Cancer Institute for *Preparation of Antileukemic bis-Sulfonimides*

Kenneth Marsi from National Science Foundation for *Synthesis, Structure, Reaction Stereochemistry and Reaction Kinetics of a Variety of Phosphorus Heterocycles*.

Henry Po from Petroleum Research Fund, ACS for *Macrocyclic Complexes of Silver (II)*

Nail Senozan from National Science Foundation for *Study of Blood Pigments of the Economically Important Animals of the Aegean Sea*

HONORS TO CURRENT STUDENTS AND NEW GRADS

Spring is the season for many things including the bursting forth of the annual department honors list. Burstees include the following:

Betty Jane Burri	Calbiochem Fellowship (will enter Ph.D. program at UC San Diego)
Stephen Castellino	Election to Phi Kappa Phi Merck Award in Organic Chemistry (will continue as a senior at CSULB and will assist in Chem stockroom)
Jeffrey A. Hagenah	Merck Award in Organic Chemistry (will continue as a senior at CSULB)
Jane Kim	Undergraduate Award in Analytical Chemistry (will work on Ph.D. at Michigan State)
Marianne Marsi	Election to Phi Beta Kappa American Institute of Chemists Award Dean Rhodes Memorial Award (will enter Ph.D. program at UCLA)
Kurt MacLean	Election to Phi Beta Kappa (will continue as a senior at CSULB)
John McGady	Calbiochem Fellowship (will work on a Ph.D. in Pharmacy at USC)
Daniel C. Peek	Election to Phi Beta Kappa (will enter graduate program in soils chemistry)
Oren Shelley	Toni Horalek Memorial Award Forty-Niner Award for Outstanding Leadership by Associated Students (will start Ph.D. program at UCLA)
Nita Weisenseel	Outstanding Freshman Chemistry Student (will continue as a student at CSULB)
Curtis Winters	Merck Award in Organic Chemistry (will continue as a senior at CSULB)

PROFESSOR LEO BREWER EVALUATES CHEMISTRY PROGRAM

The department was honored in April by a two day visit from Professor Leo Brewer of the Chemistry Department at the University of California, Berkeley. Professor Brewer evaluated the department, with emphasis on the graduate M.S. program. The evaluation included interviews with faculty, graduate students and administrators. His six-page report pointed out that the quality of undergraduate and graduate courses is very good and serves the students well. He commented that the preparation of the faculty was first-rate and that the administration of the department was "particularly impressive." Despite serious obstacles (heavy teaching responsibilities, inadequate physical facilities, severe financial limitations), many of the faculty carry on with successful research programs and accomplishments involving

students at all levels. The morale of the students is high, and many continue in successful careers or in Ph.D. study at major universities after completion of their programs here.

Professor Brewer is one of the great scientists and educators of our time, with a profound understanding and overview of chemistry and its role in society. His special interest is in the field of thermodynamics in which he has published widely for many years. One of his accomplishments is the revision, together with Professor Pitzer, of the classic "Thermodynamics" by Lewis and Randall.

Perhaps a quote from the report can summarize its content—"..... a department that has operated so efficiently to date can come up with more practical ideas for their situation that I would be able to do. The important thing to emphasize is that the success to date has been achieved through extraordinary effort."

DR. RICHARD SCHOWEN NAMED FIRST UNIVERSITY DISTINGUISHED VISITING PROFESSOR

The week of May 1-5 was a highlight of the spring semester. It was our privilege to host Dr. Richard L. Schowen, Sommerfield Distinguished Professor of Chemistry at the University of Kansas. Professor Schowen was the first visitor under a new program of University Distinguished Visiting Professorships which brings scholars to campus for a week or more.

The scholarly emphasis for the week was "Origins of Enzyme Catalytic Power" and we learned that even chemists do "proton inventories" and develop "prodrugs and suicide inhibitors" using tools such as solvent isotope effects to probe transition state structures of enzyme- and non-enzyme-catalyzed processes. In between the daily talks on these subjects, Dr. Schowen met individually with a broad cross-section of our department including faculty, undergraduates, and graduate students. The week ended, fittingly, with the annual Pizza Awards Banquet Friday afternoon.

Aside from the technical aspects of his visit, Dr. Schowen provided an outside perspective on our department to the CSULB administration. He observed one of the outstanding features of the chemistry program to be the quality and enthusiasm of our majors. In particular he noted that the CSULB chemistry majors showed a sophisticated perception of how science is done and of career objectives in chemistry. This can be attributed to good quality students selecting a chemistry major and their subsequent involvement in a productive research program. Dr. Schowen also provided the faculty with some valuable insights of ways to improve research funding.

Overall, the week was stimulating, fun, exhausting, conceptually challenging, and most of all, well worth the time and effort put out by Dr. Schowen. The ACS Student Affiliates (especially Kathleen Cannon) did an excellent job of coordination and participation and deserve credit for the week being such a success.

"Essentia non sunt multiplicanda
praeter necessitatem."

William Ockham of Surrey
1325

freely translated by Joel Hildebrand
"Do not multiply a series of vanishingly small probabilities in order to account for a phenomenon for which simple explanations can be found."

Amelia (Nizetich) Brown, BA '60, taught math and science as substitute from 1968-1974 in Marin County high schools. She is now selling real estate and has her own carpet and interior design business. She tells us that "I married in 1960 and am still married to the same guy! We have four kids—16, 15, 14, 13."

Fred H. Dorer, BS '61, is professor and chairman, Department of Chemistry, California State University, San Francisco. After completing his Ph.D. at Washington in 1965, Fred did a postdoctoral year at the University of Freiburg, Germany, spent several years at Cal State Fullerton, and a year as a program officer at the National Science Foundation before going to San Francisco State in 1975.

G. David Homer, BA, MS, '62 and '66, completed his Ph.D. degree in organic chemistry from U.C. Davis in 1970. His research was in organosilicon chemistry under Dr. Leo H. Sommer. He now has 13 publications. Dave is presently the manager of the Technical Service Laboratory for Cordova Chemical, Sacramento. He is married with two children.

Robert O. Hutchins, MA '62, took his Ph.D. at Purdue in 1967 followed by two post-doctoral years at Notre Dame. He is presently Associate Department Head at Drexel University, Philadelphia.

Karen (Lay) O'Malley, BS '62, is currently employed by the Office of the Chancellor, California State University and Colleges System, in the Division of Information Systems. She is Supervisor of Systemwide Instructional Support. In the photo printed in last years Newsletter she says that the boys were not all in the Marine Corps—"We all looked funny then!" She continues "I got sidetracked from chemistry into computing back in 1962—when I worked at North American Aviation on Apollo in a programming unit attached to the thermodynamics engineering unit. Have been in computing ever since."

Myron C. Reese, BS '62, is Chairman, Division of Science and Mathematics, at McKendree College in Lebanon, Illinois.

Terrence C. Van Buskirk, BS '62, is currently employed as a technical sales representative for Productol Chemical Div./Ferro Corporation, Whittier. Products are intermediates (cresylic acids, alkylated phenols) which are sold to chemical processing industries. He is married and has 3 children.

Gerald R. Beadel, BS '64, is self employed, married with three children,

and involved in community sports activities in Fountain Valley.

Judith Schroeder, BS '65, received the MS degree in chemistry from Indiana University in 1967. She is presently employed by the University of Arizona, Tucson as the Senior Safety Engineer, responsible for the safety of 12,000 employees and 28,000 students. She lived in Germany for two years ('68 & '69) and worked in Michigan with Dow Chemical on virus research before changing careers to safety engineering.

Ron Noble, BS '65, now lives in Dallas, Oregon. He is almost certain that he is the third person with glasses from the left in the picture in last years Newsletter.

Carol and Roger Clark, BS, MS, '66 and '70, send greetings from their just completed house in Mont Clare, Pennsylvania near Roger's place of employment, Pennwalt Corp.

James Nobilione, BS, MS, '66 and '68, is engaged in pituitary hormone research at L.A. County Harbor General Hospital in San Pedro. He is married and has one child.

Carolyn (Tanksley) Ritz, BS, MS, '66 and '69, has completed requirements for the Ph.D. degree in biochemistry from USC.

William Alvis (Bill) Thomasson, MS '66, is now Assistant Professor of Chemistry at the College of St. Francis, Joliet, Illinois. His wife, Penny, is a chemist at Helene Curtis, Chicago.

Marc L. Kasner, BS '67, is still another of our Boilermaker Ph.D.'s who did their undergraduate work in Long Beach in the sixties. He received the degree from Purdue in 1973 and is now Assistant Professor of Chemistry at Montclair State College in New Jersey.

William Lake, BS, MS, '67 and '69, earned the Ph.D. degree in biochemistry from Purdue in 1973. He now holds a joint appointment at the Northwestern School of Medicine in Endocrinology and Biochemistry. He is married with two children.

William Clare, BS '68, took the MS degree in chemical engineering at San Jose State University in 1970. He is now Senior Control Systems Engineer at Fluor Corporation, Irvine.

Raymond E. Ouellette, BS '68, now lives in Houston, Texas.

Gary Sokolis, BS '68, is teaching at Wm. Workman High School in the City of Industry, California and spending as much of the summers as possible in the

Gold Rush Country. He is entering a graduate program in Environmental Studies at Cal State Fullerton.

Don Byers, MS '69, is now a chemistry instructor at the Northern Alberta Institute of Technology, Edmonton. He recalls the outstanding T.A. award he received in 1969 and indicates that he has been commended at NAIT for his teaching efforts. He tells us that he is "now married to Myra, one of my ex students at CSULB so you can tell A.G. to stop worrying about me."

John E. Leonard, BA, MS, '60 and '73, is working on bacterial transport on a post-doctoral fellowship at UC San Diego after finishing formalities for his Ph.D. degree at UC Riverside in late 1977.

William R. Moody, BA '69, sent Christmas greetings from the Medical College in Guadalajara where he was anticipating a move back to the U.S. for a fourth year in a hospital.

Gary Valentine, MS '69, has been teaching at College of the Canyons in the Chatsworth area for the past 8 years. He is married with two young boys.

Donald Woodman, BS '69, who resides in Agoura, has become interested in industrial electronics. He and wife, Elfriede, visited her relatives in Ulm, Munich and Stornberg, Germany recently.

A. G. Yeramyan, MS '69, now works at Marshall Laboratories in Philadelphia.

Robert Henry Frisbee, BS, MS '70 and '72, lives now in Goleta, California.

Richard Jope, BS, MS, '70 and '72, earned the Ph.D. degree in biological chemistry from UCLA in 1975. Since that time he has held an NIH postdoctoral fellowship in the UCLA Department of Pharmacology. Charlene Jope worked part time in the CSULB Chemistry Office and subsequently received the Ph.D. degree in biology at UCLA where she is now an assistant professor.

Greg Kalthoff, BS '70, is working as an insurance claims adjustor in Boulder, Colorado. He can be located on the local ski trails when claims adjusting gives him a few moments respite.

Claude R. Lassigne, BS '70, obtained the Ph.D. degree at Simon Fraser University in 1975. He is presently teaching at Douglas College, Port Moody, British Columbia, and also doing NMR research as a half-time research associate at Simon Fraser University.

Michael Porter, BS '70, is now a resident of South Pasadena.

William Givens, BS '71, is manager of the power plant for the City of Colorado Springs. He has one daughter and lives on a ranch in Security, Colorado.

Bernard L. Goeders, BS, MS, '71 and '73, is living just southeast of the campus in Huntington Beach.

Stephen L. Hansen, MS '71, expects to complete the Ph.D. degree in chemistry at Simon Fraser University, Vancouver, B.C., this summer.

Margaret Ann (Hohly) Scott, MS '71, teaches chemistry at Warren High School in Downey but is frequently seen with the sailing set around Alamitos Bay. She spent two summers escorting high school students thru Europe.

Michael R. Hoover, BS '71, received his MS degree in chemistry from Purdue in 1972. He worked for Dow Chemical Company in Michigan until 1976 when he began his present job as a forensic chemist with the Los Angeles Police Department crime lab.

Stanley J. Kobayashi, MS '71, works for Occidental Research Corporation (a subsidiary of Occidental Petroleum Corp.) doing research on organic compounds from coal.

Chris D. Appleton, BS '72, lives in Buellton where he was recently appointed to the Santa Ynez Valley Advisory Committee. His current projects include a new Q.A. testing program to evaluate some 160 McDonald's dairy suppliers.

William Buchanan, BS '72, completed requirements for the D.D.S. degree at UCLA School of Dentistry in 1977. He is now working on an MS in oral biology which may be completed by Summer, 1978. His research involves development of a technique to isolate the extracellular glycoprotein which forms a seal between gingiva and the surface of a tooth or implant.

Frank Burns, BS '73, finished work on his Ph.D. degree at Brown University in 1976. He is working at Sandia Corporation laboratories in Albuquerque and asks "do you know how to build a 'wall-less' reactor?"

William L. Gibbons, BS '73, is employed as laboratory manager of the Specialty Gas Department of Liquid Carbonic Corporation. He is married with one child, 5 years old.

Charles A. McCombs, BS '73, has just completed his Ph.D. degree in the Department of Chemistry at UCLA.

Robert Rona, MS '73, has completed work on his Ph.D. degree from Rutgers and has moved back to California as a Research Chemist at Avery International Corp. in Pasadena.

William E. Campbell, BA '74, MPA '78, has been employed since March '76 by American Medical International at Circle City Hospital in Corona, CA with a wide variety of responsibilities. He writes that he "hopes to be a hospital administrator when he grows up."

Keith L. Carlson, BA '74, lists his address as 14550 Snow Street in Westminster.

Don Guido, BA '74, has enrolled at Illinois College of Optometry.

Tom Hare, BS '74, is currently working for Smith-Emery Testing Laboratories in Los Angeles running the Water Quality and Industrial Wastewater Testing Department.

V. Khamviwathna, MS, Biochemistry, '74, is now a faculty member in the Department of Biochemistry, Chulalongkorn University, Bangkok. He writes that Ava Sivirangkamanont, MS '74, is with Lever Brothers (Thailand) Ltd. in Bangkok.

Mary Mailander, BS '74, graduated from Georgetown University with the MD degree on June 3, 1978. She will intern at Harbor General Hospital in Pediatrics. She writes that "my preparation was, to say the least, *superb*. . . . the chemistry department of CSULB had a way of making a gargantuan university seem like a small cohesive college."

Clyde Pharr, BA '74, is currently attending USC School of Pharmacy, and is in the final year of the four year program leading to a doctorate in Pharmacy. Last summer was spent in Alaska.

Chester Callaway, BA '74, is working at Amvac Chemical Corp., City of Commerce, as a research associate. While with another company a couple of years ago he relates of his experiences in preparing kilogram quantities of hexanitroethane. He assures us that he still has all his fingers!

Hong-Liang R. Chen, MS '75, just finished the Ph.D. degree in Biochemistry at Rutgers University working on non-immunogenic enzymes. He now is employed at Carter-Wallace, Inc. in New Jersey as research associate and lives in Piscataway.

Stuart Nowinski, BS '75, resides at 1444 Sepulveda Street in San Pedro.

Paul M. VanCamp, BA '75, is doing research toward the Ph.D. degree with Dr. Rapaport's group at U.C. Berkeley. He is working on synthesis of psoralen analogues.

Bob Pedersen, MS '76, is currently working on the Ph.D. degree in Biochemistry at State University of New York at Buffalo (not U. of Rochester, as reported in the last newsletter), with an elective in clinical chemistry at the Erie County Laboratories. His research is in the area of control mechanisms of adrenal cortex steroidogenesis. "No place could be more different from Long Beach than Buffalo—especially the weather!"

Rick Goyt, BA '77, is working in the Dow Chemical Diagnostic Department. He says that his instrumental chemistry training has been most helpful in this job and goes on to say that "my overall training at CSULB has proven most valuable and I thank each and every professor I ever studied with."

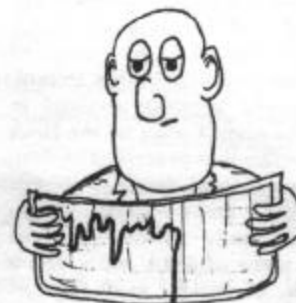
Raymond A. Johnson, BA '77, is a resident of Anaheim, specifically 2831 W. Keys Lane.

Stephen O'Barr, BS '77, is studying medicine at the Universidad del Noreste in Tampico, Mexico. He says that all but one of his classes is taught in Spanish so he is rapidly becoming bilingual.

"aber huten wir uns, unsere Traume zu veroffentlichen, ehe sie durch den wachenden Verstand gepruft worden sind."

August Kekule
1890

translated by Theodor Benfey
"but let us beware of publishing our dreams until they have been tested by the waking understanding."



Dr.
Research



NOBEL LAUREATE ARTHUR KORNBERG SPENDS DAY ON CAMPUS

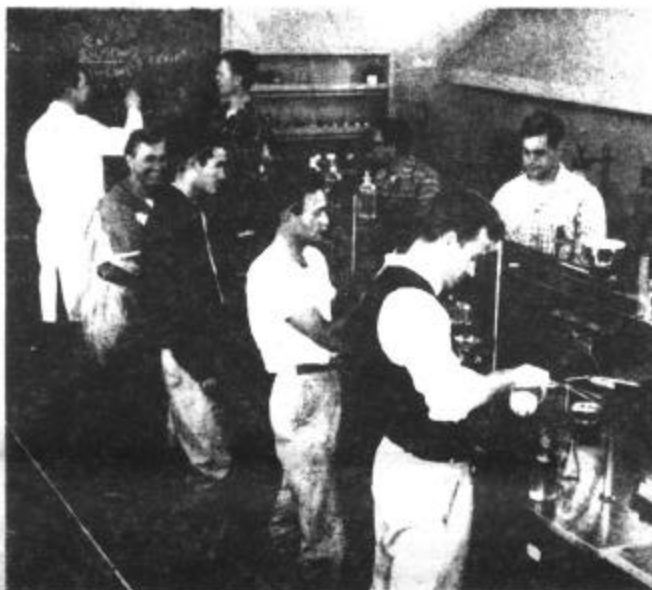
Dr. Arthur Kornberg, the famous Stanford biochemist who won the Nobel Prize in 1959 for his work on DNA replication, visited CSULB on April 21 as a Distinguished Visiting Lecturer under sponsorship of the School of Natural Sciences. He told a standing-room-only crowd in Lecture Hall 150 about recent advances in our understanding of the enzymatic machinery used by the bacterium *Escherichia coli* to make copies of DNA molecules.

We now know that the process of DNA replication requires more than twenty different proteins. One of these proteins, DNA polymerase I, was discovered by Kornberg in the late 1950's. Then called DNA polymerase, or sometimes "the Kornberg enzyme," it was originally thought to be the only enzyme needed for DNA replication. It was Kornberg's study of this enzyme which won him the Nobel Prize. Around 1970, Arthur Kornberg's son Thomas, then a student at the Julliard School of Music, discovered DNA polymerases II and III while working in Malcolm Geffer's laboratory at Columbia to earn a little extra money. Meanwhile, other research groups isolated many different classes of mutant bacteria defective in DNA synthesis. Each class of mutants is defective in one of the proteins involved in the replication process.

Kornberg's laboratory has focused on the replication of single-stranded circular DNA molecules found in certain bacteriophages, tiny viruses which multiply inside bacterial cells and use the bacterial replication proteins to copy their DNA. Using the mutant bacteria referred to earlier, they have purified and identified the functions of around twenty different proteins involved in DNA replication. Now nearly the entire process of bacteriophage DNA replication can be reproduced in the test tube using purified enzymes.

Kornberg described the roles of many of these proteins in his lecture. There are special proteins involved in recognizing the correct place on the DNA to start the replication process. The double helix opens up, and the single strands are covered by a DNA-binding protein. The DNA is made in discontinuous pieces. Each piece of DNA starts with a short stretch of RNA, made by an enzyme called primase. A DNA extension of the RNA primer is synthesized by DNA polymerase III. DNA polymerase I excises the RNA and replaces it with DNA, and then DNA ligase closes the gaps between the DNA pieces. Another

MORE NOSTALGIA DREDGED FROM THE ARCHIVAL DEPTHS



Dr. Ken Bartlett is shown with a quant class in the fire-trap temporary which served as the first chemistry laboratory at CSULB located on what is now called "North Campus"—picture courtesy of the University Archives and the 1955 Prospector.

FIRST CHEMISTRY FACULTY MEMBER REVISITED

The office window framed a spectacular view of the jagged Siskiyou Mountains to the East as he talked enthusiastically of his lakeside cabin high up among the Douglas firs and Western hemlock. The "he" is Dr. Ken Bartlett, first full-time faculty member of the CSULB Chemistry Department.

Dr. Bartlett came to Long Beach in the Fall of 1954 with a fresh Ph.D. degree from Stanford. He was a native Oregonian (Grants Pass) and had done his undergraduate work at Willamette University in Salem. Two years in the population-pressure of booming Southern Los Angeles County were enough for this pioneer 49er Chemist who moved on in 1956 to the relative repose of Southern Oregon College in Ashland.

Some may picture Southern Oregon as off the beaten track, but all the world beats its way to the Elizabethan Stage in Ashland each summer to watch a brief

protein uses the energy from ATP hydrolysis to continually unwind the double helix. A DNA gyrase provides a swivel to make sure that the rest of the double helix doesn't get tangled up when the ends are unraveled. A great number of details of this process remain to be elucidated by future work.

Dr. Kornberg's stimulating lecture was followed by a faculty luncheon in the Oak Room and then a student reception.

moment of strutting and fretting. There are even advocates of "big is beautiful." The Southern Oregon College Chemistry faculty now numbers nine with Ken Bartlett as Chairman.

Ken recalls that he taught general chemistry, the short organic course and quantitative analysis during his two years at CSULB. In 1955 he was joined by Dr. Ed Becker, who taught the first course in physical chemistry, and Dr. Robert Henderson, who gave the organic course for majors. The three of them moved from the lower campus wooden temporaries to the first permanent science building (the western two-thirds of SC-2) in Spring, 1956. He said that the new building was constructed complete from blueprints of another school (San Jose?)—even with a Kjeldahl room—and even with the former equipment list intact.

Ken still remembers his students of those early years. Among others he mentioned Lloyd Peak, top student in general chemistry, who competed in a statewide examination sponsored by the Chemical Rubber Company and walked off with first prize. The award consisted of a chemistry book budget to the library. Several books in our chemistry collection can be found which bear labels acknowledging the Peak award.

Talk drifted back to problems of installing some new paneling in that lakeside cabin though one obvious question remained—"did he miss the life in California?" Don't ask!!

103 FORMER STUDENTS HAVE STUDIED FOR THE PH.D. DEGREE

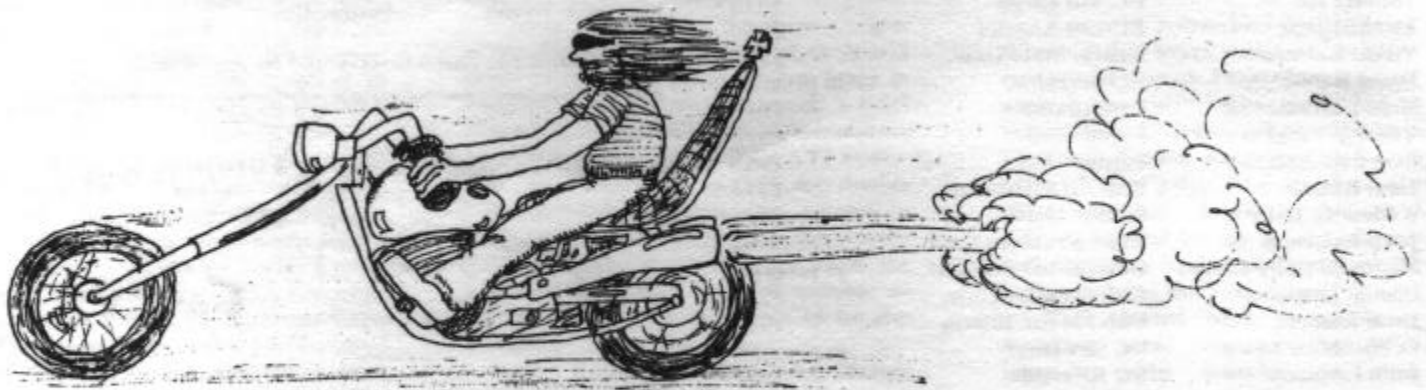
Distinguished visitors to the CSULB chemistry department repeatedly point out that the University can take great pride in the quality of its graduates, both bachelors and masters. Another source of pride is the remarkably large number who have gone on to the Ph.D. and other doctoral degrees. A list of 103 former students who have been awarded the Ph.D. degree or whose study is in progress follows. This represents about one in four of our graduates.

NAME	UNIVERSITY	APPROXIMATE DATE OF PH.D.	NAME	UNIVERSITY	APPROXIMATE DATE OF PH.D.
Edward Behare	UC Davis	1970	Chang F. Lo	UC Davis	in progress
Kenneth Bell	UC Irvine	in progress	Michael Locke	UC Irvine	in progress
Claudia Black	Harvard Univ.	1977	Donald Lynch	Univ. of Pittsburgh	1975
William Bottenberg	UC Riverside	1970	Ronald MacGregor	Univ. of Indiana	1967
Reid Bowman	UC Santa Barbara	1976	Chris Machara	Michigan State Univ.	in progress
Joseph Bramblett	UC Irvine	in progress	Diane Manchester	Univ. of Oregon	in progress
Oliver Brown	Kansas State Univ.	1970	Dana Marsh	UC Riverside	1967
Frank Burns	Brown Univ.	1976	Grace Plumley Marsh	UC Riverside	1967
Byron C. Burros	Rutgers Univ.	1976	George Mast	Brown Univ.	1975
Ed Carbon	UC Riverside	1972	Charles McCombs	UC Los Angeles	1978
David Carre	UC Santa Cruz	1978	Thomas McLaughlin	UC San Diego	1967
William Centebene	USIU, San Diego	1977	Sherin Abdel Meguid	Univ. of Nebraska	1977
Albert Chan	Univ. of Nebraska	in progress	Alan Messing	UC Davis	1972
Robert Chen	Rutgers Univ.	1977	Michael Monahan	UC San Diego	1970
Roger Clark	Univ. of Utah	1976	James Myrtle	UC Riverside	1968
John Crowley	UC Berkeley	1966	Joseph Oberlander	Univ. of Utah	1978
Linda Cunningham	Univ. of Louisiana,		Michael O'Connor	UC Irvine	1976
	New Orleans	in progress	Eugene Oliphant	UC Davis	1966
Michael Cyr	UC Los Angeles	1970	Robert Ono	UC Irvine	in progress
Fred H. Dorer	Univ. of Washington	1965	Patrick Pakes	UC Berkeley	in progress
Hiroyuki Enomoto	UC Irvine	1978	Richard Parker	Univ. of Washington	1966
Harutyun Eran	Univ. of Southern Calif.	in progress	Arie A. Passchier	Univ. of Washington	1966
David Fagerburg	Univ. of Washington	1965	Robert Pedersen	St. Univ. of N.Y. at Buffalo	in progress
Bruce Fellows	UC Los Angeles	in progress	Clois Powell	Rutgers Univ.	1977
Robert Flath	UC Berkeley	1963	Joe Reeve	UCLA	1976
John Fox	UC Davis	1973	David M.E. Reuben	UC Berkeley	1968
Robert L. Freerks	UC Irvine	in progress	Carolyn Tanksley Ritz	USC	1978
Robert H. Frisbee	UC Santa Barbara	1976	Robert Rona	Rutgers Univ.	1977
Lester D. Fullmer	UC Santa Barbara	1975	Mike Rose	Univ. of Utah	1976
Michael Gardner	UC Los Angeles	1975	Alan Senzel	UC Los Angeles	1969
Timothy Geiser	Cornell Univ.	1973	Fred Seymour	Univ. of Pacific	1966
Hideki Goko	Univ. of Pittsburgh	in progress	Edward Steffen	UC Davis	1970
Barry Gorewit	UC Irvine	1968	Howard Stephens	Purdue Univ.	1970
Thomas Gregg	Univ. of Rhode Island	1976	William A. Thomasson	Calif. Inst. of Tech.	1972
Stephen Hansen	Simon Fraser Univ.	1978	Rik Tuinstra	Univ. of Wisconsin	1978
Gary Hargrove	UC Riverside	1966	Trina Burns Valencich	UC Irvine	1974
Peter Harney	Univ. of Hawaii	1977	Walter Volland	Michigan State Univ.	1966
Gary Hathaway	UC Davis	1966	Gary Weihe	UC San Diego	1978
Don Hayden	UC Santa Barbara	1972	Robert Wesley	Oregon State Univ.	1973
Alvin Hermann	UC Riverside	1968	Charles West	Kansas State Univ.	1972
Norman Hester	UC Riverside	1975	Wai-Kwok Wong	Univ. of Wisconsin	1978
G. David Homer	UC Davis	1970	Ara G. Yeramyian	Michigan State Univ.	1972
Robert Hutchins	Purdue Univ.	1967	Frederick Young	Purdue Univ.	1976
Thomas Ito	UC San Diego	1975			
Richard Jope	UC Los Angeles	1975			
Yukio Kakuda	Kansas State Univ.	1974			
David Kanne	UC Berkeley	in progress			
Marc L. Kasner	Purdue Univ.	1973			
Ralph J. Knights	Purdue Univ.	1975			
Evord Knights	Purdue Univ.	1968			
John Kulluk	Univ. of Pittsburgh	1973			
William C. Lake	Purdue Univ.	1973			
John Landrum	Univ. Southern Calif.	in progress			
Marina Murphy Larsen	Univ. Southern Calif.	in progress			
Claude Lassigne	Simon Fraser Univ.	1975			
Leon Lazarus	Univ. of So. Illinois	1976			
Debbie Marr Leicy	UC San Diego	in progress			
John Leonard	UC Riverside	1977			
John Likos	Iowa State Univ.	1975			
Francisco Llort	Princeton Univ.	1978			

Any additions or corrections would be appreciated.



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1978 model CARNOT CYCLE

Cartoons by Fritz Coffman, BS '77.