



California State University, Long Beach

# CHEMISTRY DEPARTMENT NEWSLETTER

No. 2

May, 1977

## FROM THE ARCHIVES:

Who can tell us when this photograph was taken, and who the characters are? Hint: The room is No. 217.

A student helping with the *Newsletter* asked, when she saw the picture, "Were they all in the Marine Corps?"



## THE CHAIRMAN'S MESSAGE

Dr. Henderson, the editor of the *Newsletter*, and I were pleased with the alumni response to the first issue of the *Newsletter* last Spring. We received many letters (and even long distance phone calls) from alums—enough encouragement to permit us to continue with this second issue. Keep those cards and letters coming! They are posted and shared with other faculty who also welcome any news from you.

Our department continues to grow. We have about 2,500 students enrolled in chemistry courses taught by 26 faculty assisted by 15 teaching assistants, 8 graduate assistants and 3 part-time instructors. There are 180 undergraduate majors and 50 MS candidates in chemistry. If you didn't happen to notice, the March 21 issue of *Chemical & Engineering News* listed our department among the 25 highest producers of MS candidates in the nation in 1976 with 12 MS graduates. We ranked fifth in the CSUC system in the production of BA and BS degree students. Furthermore, our students are getting jobs and are experiencing gratifying success in being admitted to postgraduate programs. Last year 82% of chemistry graduates applying to medical, dental or pharmacy schools were admitted!

This academic year we have two new faculty. Dr. Charles "Pat" Dunne, a biochemist, comes to us from the faculty of the University of Detroit. Dr. John Pettus, a Lecturer, received his PhD in marine organic chemistry from the University of Hawaii.

Chemistry led all departments of the University in proposals submitted and awards received during the five year period July 1, 1971 to June 30, 1976. In total dollar sum of awards, Chemistry ranked 9th 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 period July 1, 1976 through March 31, 1977 chemistry has continued its tradition of broad participation by department members in writing proposals. Twenty-one proposals involving one or more of ten different faculty members have been forwarded. Grants have usually been in the small to medium range. So far this year four off-campus grants have been awarded to members of our faculty: Jack Berry (Heart Association), Tom Maricich (NIH), Henry Po (PRF), and Ken Marsi (NSF). Dunne, Berry, and Jensen have been

granted Summer Fellowships by the University to enable them to spend the summer of 1977 with their students in active research participation. Ken Marsi has been awarded a Danforth Foundation Associateship. Returning from sabbatical leaves are Don Simonsen, Les Wynston (Taiwan), Ed Becker, and Ed Harris (New Zealand). Currently on leave is Ken Legg who spent the first half of his sabbatical in Germany and now is at MIT doing research in photochemistry.

Among items of equipment our department has acquired are a second NMR instrument, a mass spectrometer (a gift from Union Oil), a spectrofluorometer, and an analytical ultracentrifuge. Next fall, the Microbiology Department will vacate the science buildings and move to the impressive new Microbiology facilities, located in the old science parking lot. Chemistry, hopefully, will then be able to expand from its present cramped quarters.

I hope we will have another *Newsletter* next year despite the fact that our energetic editor, Bob Henderson, will be on sabbatical at King's College in London. We would like to feature more information about our alums, so please write and let us know about yourselves!

CSULB Faculty + Staff ↔ Our Alumni

Ken Marsi

**NOBEL LAUREATE CRICK SPEAKS**

Dr. Francis H. Crick, the famous biochemist and X-ray crystallographer, visited CSULB on February 4, 1977, and presented a lecture on "The Structure of Chromatin." Crick shared the 1962 Nobel prize in Physiology and Medicine with James Watson and Maurice Wilkins for their elucidation of the three-dimensional structure of double helical DNA, a discovery which revolutionized modern biology. Crick is spending this academic year at the Salk Institute in La Jolla.

About three hundred students crammed into LH-151 to hear Dr. Crick, another three hundred watched the lecture on television next door, and still more were turned away. Crick discussed recent work on the structure of chromatin, done both in his own laboratory at the Medical Research Council in Cambridge, England, and in other laboratories around the world.

Chromatin is a complex of DNA and proteins which forms the chromosomes of animal and plant cells. Although the structure of the DNA double helix has been known for many years, the arrangement of the DNA and proteins in chromatin has only recently begun to be elucidated. Chromatin consists of a series of repeating units called nucleosomes, each resembling a spool with thread wrapped around it. The spool is an aggregate of several basic proteins called histones, and the thread is the polynucleotide chain of the DNA. The chain of threaded spools is itself coiled up in more complex ways to form chromosomes.

Chemical experiments over the last five years have provided a great deal of information about the structure of the nucleosome. Crick's laboratory recently succeeded in crystallizing nucleosomes and is now at work on X-ray crystallography of this structure. Much less information is available on the supercoiling of the chain of the nucleosomes, but Crick presented some of the most recent work in this area. The lecture was received very enthusiastically and those present praised Crick's ability to make a complex area of research intelligible to students with a limited chemistry background.

The lecture was followed by a faculty luncheon in the Oak Room and then a student reception in the Science Learning Center. Dr. Crick's visit was sponsored by the School of Natural Sciences and the Office of Graduate Studies.



We still have a limited number of Newsletter No. 1 copies. So, if you didn't get one, return the enclosed post card and request that a copy be sent to you forthwith.

**LETTER FROM THE STUDENTS**

by Diane Manchester

The activities of the ACS Student Affiliates have been many and varied this year. Our projects included sponsoring a Chemistry Department seminar; the speaker was David Young from the Southern California Water Resources Research Project. Two films were presented: one on mass spectroscopy and the other on "Life and the Structure of Hemoglobin." Group trips, one to ICN Pharmaceutical and the other to Linus Pauling's seminar at UCI, were organized for interested students and faculty. In both semesters, laboratory safety glasses sales were phenomenal (over 1,000 pairs sold), bringing us profits and fun in the form of our Department Christmas Party and our upcoming annual pizza awards banquet. The Affiliates have been responsible for publicity of the Chemistry seminars and other events sponsored by the School of Natural Sciences or the Department, have tutored in our SONS Learning Assistance Center, worked in polling booths during student elections, and initiated a paper recycling drive within the Department. Also, CRC *Handbooks on Chemistry and Physics* and *Tables for Organic Compound Identification* were sold each semester.

Officers for the ACS-SA for 1977-78 will be: Oren Shelley, President; Suzanne El Toreao, Vice President; Kathleen Cannon, Secretary; Shelley Bryce, Treasurer.

We are grateful for the strong support the Chemistry faculty has given to us in our projects, particularly our advisor, Dr. Wikholm, and Department Chariman, Dr. Marsi. We also thank the students who gave their help. To show our appreciation, we are donating the extra funds in our Trust Account to the Chemistry Department.

Diane Manchester, President  
Oren Shelley, Vice President  
Richard Lee, Secretary  
Dan Peck, Treasurer

**KIERBOW RETIRES**

This year sees the retirement of a second faculty member from the Chemistry Department. Professor Julie Kierbow, who was known to the early graduates as Julie Parker, retires as of September, 1977. She joined our faculty in 1957 after the completion of her doctorate at the University of Colorado in Inorganic and Radiochemistry. Earlier she received a B.S. from Ohio State and a M.S. from the University of Hawaii.

She and her husband will move to Arizona, where they are building a new home in Sun City, near Phoenix.

**DEPARTMENT HONORS  
OUTSTANDING GRADUATES**

Each year the Chemistry Department selects several of its students for awards in recognition of outstanding performance. The following are announced for 1976-1977:

*Outstanding Freshman* - Norman Seto. This award, sponsored by the Chemical Rubber Publishing Company, goes to the student with the best record in Chemistry 111A, B and provides the student a copy of the *Handbook of Chemistry and Physics*, donated by the Chemical Rubber Co.

*Merck Award* - Oren Shelley and Kenneth Bell. Given to the best student(s) in Chemistry 321A, B are copies of *The Merck Index*, donated by Merck & Company, Inc.

*American Institute of Chemists Award* - Diane Manchester. Based chiefly on GPA although research and other factors are considered, this award is given to a graduating senior who will pursue a chemistry career. A medal and certificate are awarded by the AIC at their annual awards dinner.

*Horalek Award* - Richard Lee. Initiated in 1972 to honor our long-time Departmental Secretary who died of cancer, this award goes to the graduating senior judged outstanding on basis of GPA and departmental service. A certificate is presented at the annual departmental awards luncheon.

*Outstanding Senior in Chemistry* - Diane Manchester. Either the AIC or Horalek award recipient is chosen to receive recognition at Commencement and to receive an Alumni Award.

*Dean Rhodes Scholarship* - Diane Manchester. Income from a bequest of Dean Robert Rhodes, who was a scientist and a member of the original administration of Long Beach State, is used to provide a \$25 voucher for purchase of books to "encourage the pursuit of chemistry as a career."

*The Analytical Award*, consisting of a subscription to *Analytical Chemistry*, will be made at the end of the semester to the top graduate in Instrumental Analysis, Chemistry 451. Also, the Department will nominate candidates for the Graduate Dean's Honors List and for the Natural Science Dean's Student Service Award. Selections will be made by the Deans with the aid of faculty committees, and announced at the commencement exercises.



**Philip L. Anthony**, BS '58 *cum laude*, was elected Member, Board of Supervisors for Orange County in November, 1976. He is on leave from the Autonetics Division of Rockwell International, Anaheim, CA. He had been supervisor of the Laser Instrument project, responsible for the development of laser gyroscope and laser accelerometer inertial guidance instruments. He has long been active in city and county public service, both in elective and appointive offices.

**Beverly Garrigues**, BS '64 taught chemistry in Valencia High School in Placentia for several years. She now lives on a ranch in Bonsall, CA, tending garden and raising animals. She and her husband have two children.

**Ronald Noble**, '65, is a chemist in the paint and chemical lab, Oregon State Highway Dept., Dallas, Oregon.

**Carol and Roger Clark**, BS '66 and MS '70, Mont Clare, Penn. Roger is with Pennwalt Corp. and is building a house.

**Raymond E. Ouellette**, '68, with Shell Oil Company in Houston, Texas, is married and has two children, and he and his wife are active in community affairs.

**Eugene Berg**, MS '68, PhD, analytical Chemistry UCLA 1970, teaches chemistry and environmental science at Moorpark Community College.

**Reid Bowman**, BS '69, has just completed a postdoctoral at UC Berkeley and is employed with Dow Chemical in the Bay area. His wife, Paulette, is in nurses' training.

**John Leonard**, MS '69, in biochemistry, finishing his PhD at UC Riverside, remarks about the rigor of the program.

**Don Woodman**, '69, with Riker Labs, a subsidiary of 3M Company, is an analytical chemist in quality control. He, wife Elfriede and daughter live in Agoura, CA.

**William W. Garrett**, '71, was a lab analyst for five years with Monsanto Co. He was recently promoted to plant processing engineer, and is continuing classes at CSULB in chemical engineering. He suggested more practical, industrial-oriented classes and greater emphasis on safety.

**Bill Givens**, BS '71, after graduation accepted a job with Southern California Edison at the Mohave Generating Station. He is married to Mary Gordon, a CSULB '72 Economics graduate. He now is the plant chemist for Pacific Power at the Jim

Bridger Plant in Rock Springs, Wyoming. With his laboratory staff of three, he is responsible for water quality, coal analysis, stack emission sampling, etc.

**Bill Buchanan**, BS '72, is now at the UCLA dental school, class of '77.

**Frank Burns**, BS '72, after finishing his PhD at Brown University in 1976, joined Sandia Labs, Albuquerque, and is setting up an analytical lab.

**Byron C. Burros**, MS '72, is employed by the Carnation Co., Van Nuys. He was previously a Postdoctoral Research Associate with Prof. Martin Sammelhack at Cornell University, and obtained the PhD from Rutgers University in 1976 with Prof. Donald Denney.

**Joe Oberlander**, MS '72, is completing his PhD in organic chemistry at the University of Utah.

**Richard Jacobs**, MS '73, is a Materials Processing Engineer with Litton Industries, in Thousand Oaks, CA.

**Charles A. McCombs**, BS '73, is finishing his PhD at UCLA in organic chemistry with Prof. Jung in synthesis of natural products. He and his wife enjoy bluegrass music and he plays the banjo.

**Bob Rona**, MS '73, is finishing a PhD at Rutgers University in organic chemistry.

**Gary Weihe**, BS '73, is completing his PhD at UC San Diego in organic chemistry. He and Christie are proud parents of a second son, Orion.

**Debbie (Marr) Leisy**, BS '74, has moved back to Southern California from Ashton, Idaho. She is currently in the UCSD PhD program studying bio-organic chemistry. Her husband, Bill, is looking for teaching job. She worked as Lab Technician in a hospital in Ashton enjoying small town life.

**Francisco Llort**, BS '74, is working toward his PhD in organic chemistry at Princeton University with Prof. Kurt Mislow.

**Rick Tuinstra**, BS '74, is working toward a PhD in organic chemistry at the University of Wisconsin. He and his wife, Jan, are proud parents of twin girls born last year.

**Cliff Cottonaro**, BS '72, in medical microbiology, is a project leader in the Research Dept. of Hancock Laboratories, a manufacturer of porcine heart valves. His wife, Julette (a CSULB graduate), is supervisor in Bacteriology at Bentley Labs in Irvine.

**Stuart Nowinski**, '75, is an analytical chemist for United States Borax (Wilmington, CA plant).

**Socrates Batista**, '76, has returned to Brazil and is teaching at the Universidad de Amazonas.

**Jim Jasperse**, MS '76, is with Pharm. Eco Labs in Simi Valley doing synthetic organic chemistry.

**Chang-Fan Lo**, MS '76, is working for a PhD at UC Davis.

**Michael M. Nishina**, BS '76, is a chemist in the Environmental and Energy section of the applied Chemistry Dept. at TRW; currently working on the catalytic conversion of coal chars to hydrogen gas. He enjoys the working conditions at TRW!

**Stephen O'Barr**, BA '77, special major in natural science, is studying medicine in Universidad Del Noreste in Tampico, Mexico. Classes in Spanish (tough); likes the people, hates the weather.

**Robert Pederson**, MS '76, is working toward a PhD in clinical chemistry at the University of Rochester.

**Ercan Unver**, MS '76, is teaching at Izmir University in Turkey.

**Danute Basiulis**, MS '77, is working as a research chemist at Hughes Aircraft in Torrance.

**Rick Goyt**, BA '77, is with Dow Chemical and graduated tops in his training class. He recommends Dow for those interested in research or marketing.

**Dave Kanne**, MS '76, is working towards his PhD in organic chemistry at Berkeley.

**John Spille**, BS '78, is spending a year at Uppsala University in Sweden in the limnology program. He is looking forward to traveling around Europe. He returns to CSULB next fall to complete his bachelor's degree.

**Jon Hutchins**, a former lecturer in our department, is at Storm Lake, Iowa teaching at Buena Vista College. He is teaching organic, biochemistry, quant., and has a research student. Lots of snow and cold, but "good clean air."

**Dr. Calvin A. VanderWerf**, Dean of the College of Arts and Sciences, University of Florida, Gainesville, acknowledged the *Newsletter* in which he was featured last year. He spent several days in the department as a consultant to help us with long-range planning.



The wit and art of Frederick D. "Fritz" Coffman, '78, are worthy of a few minutes of your time so we include some samples. Written or drawn on paper towels and posted on the Issue Room door, his "dictionary" and cartoons amused and entertained students and faculty alike this past semester.



**COFFMAN'S CHEMICAL DICTIONARY**

- Acetic Acid** A weak acid, often diluted in buffer problems and in salads.
- Acetone** The practical opposite of hand lotion.
- Biochem** The study of what happens after a man eats Thanksgiving dinner.
- Bookstore** The final resting place of your last summer's paycheck.
- Calculator** A machine students buy to punch in numbers and read out ignorance to 8 significant figures.
- Coffee** An antidote for an 8:00 lecture, or a substitute glass cleaning solution. A dark liquid disguising a caffeine solution.
- Cold Room** Storage area for enzymes, columns, and Budweiser.
- Crib Notes** A small notepaper crammed with equations ready to be misused on an examination.
- Dry Labbing** The time-honored art of constructing a lab report backwards from some desired result, usually the night before the due date.
- Ethanol** The friendly solvent, often used to dissolve mental capacity.
- Explosion** The calling card of freshman chemistry; nature's gentle way of reminding us that we're mortal.
- Extraction** Mixing two liquid layers in a glass funnel equipped with a stopcock, enabling students to vent the contents all over the ceiling.

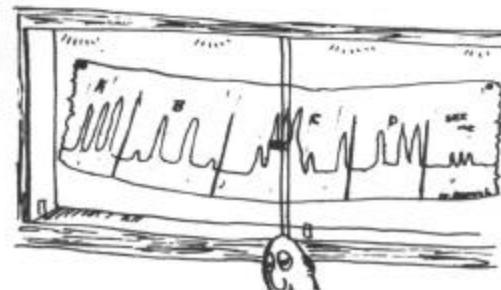
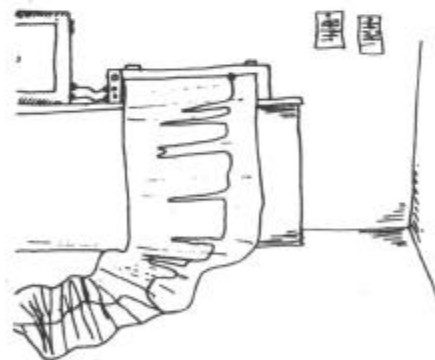


- Fume Hood** A device usually ignored in experiments generating poisonous gases.
- Finals** The academic equivalent of Hara-Kiri.
- Fire Extinguisher** An empty decoration used to please safety officials.
- General Chem.** A gentle reminder to the general student body about the relative ease of their own majors.
- Graduation** Going on Unemployment

- Heisenberg** Developed uncertainty principle years after it had been found by females with more than one Saturday night date.
- Inorganic Chem.** The dumping ground of all deemed not Organic.
- Krebs Cycle** A metabolic path which converts a chicken salad sandwich into a 2 mile jog.
- Laboratory** The section of class where one can further misunderstand what he didn't get in lecture, usually requiring the loss of several mornings, afternoons, or evenings per week.
- Lecture Academia's** cure for insomnia.
- Mettler Balance** An extremely accurate weighing device, allowing students to fudge to 4 decimal places.
- Nugget\*** Site of post-exam seminar.
- Nylons** The first casualty of an acid spill.
- Organic Chem.** A study of how nature capriciously links carbon atoms together until they reach absurd lengths, or twist them about until they resemble medium mesh chickenwire. Also, the graveyard of Premeds.
- P. Chem.** The 10th circle in Dante's Inferno.
- Periodic Table** A neat, numbered organization of the elements, so constructed as to fit on the inside flap of a Pee-Chee folder.
- Products** The sludge left in a reaction flask.
- Professors** The academic equivalent of a bishop.
- Quant.** A disease of the cerebellum resulting in gravimetric analysis.
- Reagents** Chemicals the student mixes together in the wild hope that he will get the desired end product.
- Refluxing** A clever way of controlling a boiling liquid, enabling the experimenter to run out for a sandwich.
- Stockroom** The temple of worship for those who regularly break glass.
- Textbook** An exercise weight used for building up the arms while being carried around campus.
- Titration** An absurdly slow process going from one pH extreme to another, designed to give substance to lower division chem labs.
- \*To the uninitiated:** This is the on-campus bistro.

**Dr. Research**

CORRECTS EXAMS



Following is a list of former students with whom we have lost touch. Can anyone help us give us addresses?

|  |  |  |
|--|--|--|
| '58<br>Barrett, Robert G.<br>Rogers, William J.  | '66<br>Alton, Dennis J.<br>Brown, Oliver M.<br>Edmondson, Donald W.<br>Rodenbacher, Paul G.  | '69 (Continued)<br>Rawding, Ronald B.<br>Stowin, Stephen M.<br>Swearingen, Jesse T.<br>Wright, Sandra S. |
| '59<br>Bike, Allan D.<br>Greene, John Powell<br>Larson, Edwin A., Jr.<br>McQuaid, Paul Evans<br>Mellem, Donald L.<br>Morgan, Rufus James | '67<br>Baier, Karen H.<br>Guensche, Barbara J.<br>Jordan, Robert L.<br>Reitmeier, Paul E.<br>Rogers, Paul G.<br>Vuitel, Charles A.   | '70<br>Arslan, Madeleine<br>Cook, Kenneth<br>Corder, David P.<br>Moreland, Brooke H.<br>Shupe, Neal W.   |
| '60<br>Jones, John H.<br>Robinson, Ronald A.   | '68<br>Distefano, Alan A.<br>Huck, Robert W.<br>Juarez, Angel<br>Kakuda, Yukio<br>McGaughey, Timothy J.<br>Ogle, Gilbert J.<br>Pfeiffer, Bruce E.<br>Porter, Tommy D.<br>Sokolis, Gary E.<br>Steiler, Brian N. | '71<br>Lewis, Charles W.<br>Scott, Leonard F.  |
| '63<br>Coyle, Robert P.<br>Hargrove, Lynn I.<br>McGee, John J.<br>Pelly, Richard F.<br>Timbrook, Steven L.                               | '69<br>Carpenter, Carolyn A.<br>Condon, Nancy J.<br>Dubois, Richard H.<br>Easterling, Michael R.<br>Flanders, Richard<br>Griffin, Roger D.<br>McCart, Perry D.<br>Okano, Nobue M.                              | '72<br>Liang, Anne C.<br>Reeve, Joseph R.<br>Straub, William   |
| '64<br>Benham, Neil R.<br>Chapman, Benny I.<br>Christiansen, Per B.<br>Sandstrom, James  |  | '73<br>Johnson, Johnny R.  |
| '65<br>Derose, Nickey B.<br>Mainey, Robert F.<br>Murray, Marilyn<br>Smith, Harold W.   |  | '74<br>Lemoine, Larry M.<br>Sirirangamonont, Ara   |
|  |  | '75<br>Callaway, Chester   |

#### CHEMISTS ELECTED TO PHI BETA KAPPA

A chapter of Phi Beta Kappa, Rho of California, was duly installed on our campus May 3. Long Beach is one of only three CSUC campuses now having chapters. Among thirty-nine graduating students elected to membership were Diane Manchester and Richard Lee, Bachelor's students in Chemistry. Ken Marsi, a member of the Chemistry faculty, was one of only two University faculty to be elected to membership. Alec D. Keith, a former Chemistry student who graduated in 1962, was one of three alumni honored with membership in Phi Beta Kappa. Dr. Keith is now Professor of Biology at Penn State University.

#### ... AND STILL MORE AWARDS

The CSULB Chapter of the Student Affiliates of the American Chemical Society was honored with a trophy and permanent plaque as the "Organization of the Year" at CSULB. About 100 other campus groups were in competition. Excerpts from the letter of nomination

submitted by the Department Chairman detail some of the worthwhile activities of this group in the 1976-77 academic year:

"Members...sold safety glasses to students in laboratory courses...and...contributed to high safety standards within the Department."

"...sold chemistry reference books to students at a savings..."

"...made themselves available to students enrolled in chemistry courses for free tutoring."

"...sponsored an orientation program for chemistry majors... to advise majors of requirements for their degree, activities within the Department, and the potential for careers in the chemical profession. There was a large turnout of students for this meeting, and it received an enthusiastic reception."

"...held several open meetings at which invited members of professions related to chemistry spoke about job opportunities in chemistry."

#### VISITING PROFESSOR

Dr. Augustine Silveira, Jr., Chairman of the Chemistry Department at the State University of New York, Oswego, is lecturing in organic chemistry at CSULB while on sabbatical leave from SUNY. He also is Visiting Professor at U.C. Irvine, under an American Council on Education Fellowship.

Last year Dr. Silveira was one of five from the total SUNY faculty of 14,000 to be promoted to Distinguished Teaching Professor, the highest rank in that system. He is active in ACS affairs, both local and national; and was awarded an honorary Doctor of Science by his undergraduate *alma mater*, Southeastern Massachusetts University.

#### WHAT'S IN A NAME? (Not much - so far)

We have very few responses to the request for a title to this newsletter: three votes for "The 49er Chemist," two for "Periodic Function," and one for "The 49er Chromatogram."

To Don Woodman, '69, goes the prize for the most original suggestion: "Indium Smokesignals." Indium is the 49th element, CSULB are the 49ers, Indians are associated with the *original* 49ers, smoke signals were a means of communication.

We are still delaying a decision until we hear from more precincts. What is your preference?

"...purchased two award plaques for perpetual recognition of outstanding students. Funds were also used to help sponsor a faculty/student get-acquainted party...(and) a highly successful picnic for faculty and students."

"...undertaken a paper recycling project."

"...(sponsored) an awards luncheon..."

"...(publicized) Departmental seminars and special seminars by visiting chemists."

In addition Diane Manchester, President, and Orin Shelley, Vice-president, were given "Golden Nugget" awards for their outstanding contributions to student activities on this campus. Diane also received the School of Natural Sciences Service Award as the most effective contributor to student service and participation in the School of Natural Sciences. This award was presented at the School Commencement exercises.