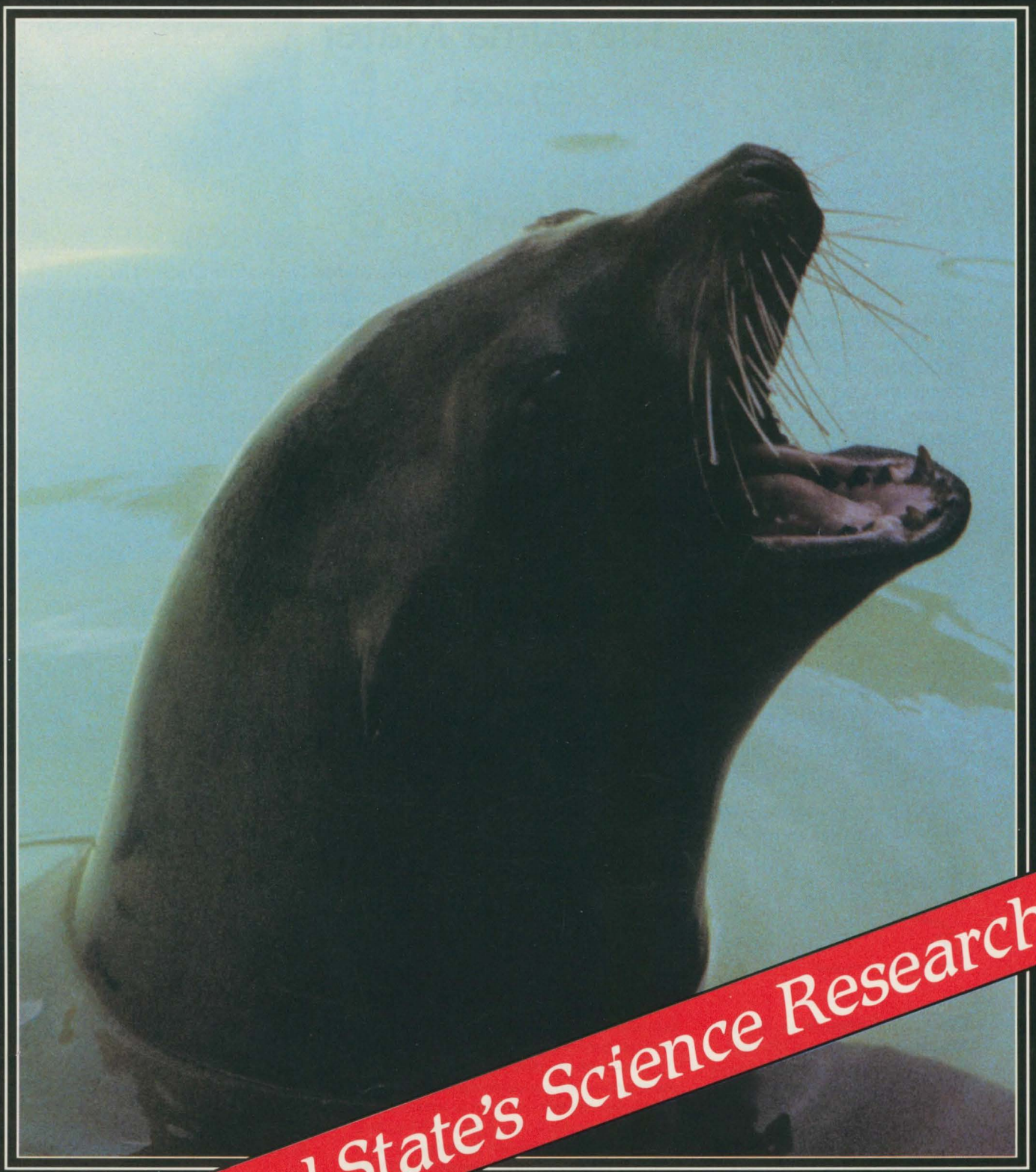
ACACIA

THE CAL STATE MAGAZINE WINTER 1984



Cal State's Science Research

The Alma Mater Yardstick

Within the past few weeks, Cal State underwent a comprehensive review for reaffirmation of its accreditation. A 12-member evaluation team from the Western Association of Schools and Colleges, representing a wide range of academic disciplines, was chaired by Dr. John Ryan, president of Indiana University. While on campus the group was concerned with every aspect of our University's resources: faculty, staff, students, alumni, as well as library, computers, and community service. Their charge was to assure the educational objectives of this institution are clearly defined; that we are accomplishing those objectives and we will continue to achieve them.

Although the on-campus portion of the review took only four days, we have been preparing for more than a year. This review, which normally occurs every 10 years, is a unique aspect of American higher education and provides Cal State an objective vantage point from which to assess our past and prepare for our future.

But what is the best measurement of Cal State's institutional character and academic quality? Is there any better yardstick than the achievements of the Cal State alumni?

The pages of ACACIA offer an ideal forum for us to define and delineate the successes of our graduates. The spectrum of professional activities is unlimited. They can be found in lecture halls, city halls and symphony halls; in oil fields and bullish markets. If graduates are indeed the best measurement, Cal State has much of which to be proud.

I invite you to peruse the pages of this and future issues of ACACIA to see who the alumni are, what they have and will accomplish.

Cal State does measure its institutional pride and achievement by those who know us the best, by those who call us *alma mater*.

Sincerely,

Ellis E. McCune
President

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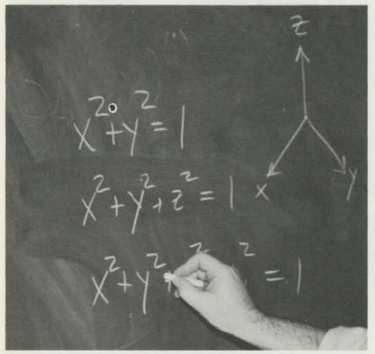

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ACACIA

ON THE COVER: Rocky, the Cal State sea lion, is one of the better known participants in the University's scientific research projects, which are detailed in ACACIA's feature story beginning on page 12 (photo by Dennis Lavery).

ACACIA is published three times a year (fall, winter, spring) and welcomes contributions from alumni, faculty, staff, students and friends. Correspondence concerning magazine content or address changes should be sent to Editor, ACACIA, California State University, Hayward, Hayward, California 94542. ACACIA is printed with non-state funds.

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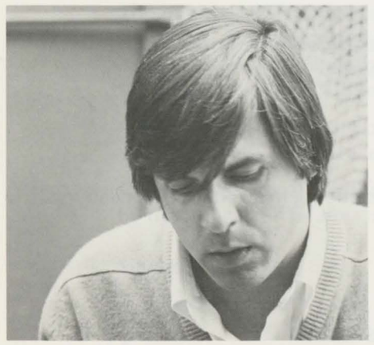
A Day At The Zoo

Lions and Tigers and *Greased* Bears

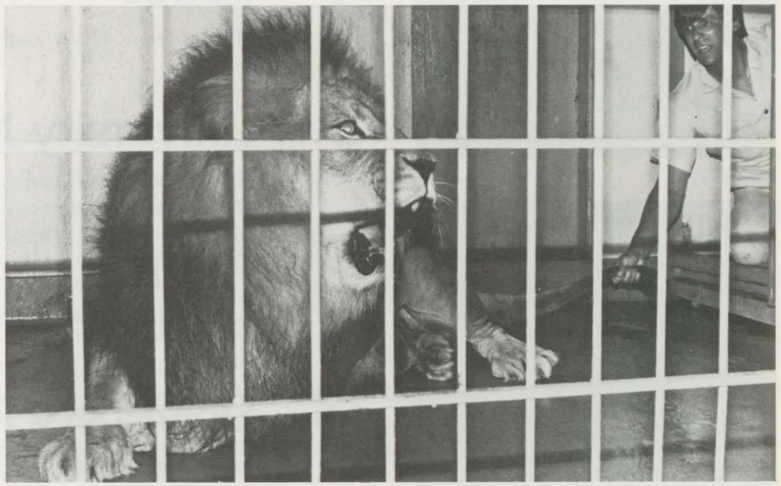
by Dr. Craig Machado '73

Scientific research at Cal State is ACACIA's feature story this edition. The Issues *section approaches the science theme from another angle — that of the alumnus practitioner. Dr. Craig Machado received his B.S. degree from Cal State in 1973 and his DVM from UC Davis. Since 1981 he has been head of veterinary medicine at the San Francisco Zoo. Before returning to the Bay Area, Dr. Machado was the veterinarian at Regent's Park and Whipsnade in London and at the West Midland Safari Park in Bowdley, England. He also practiced at Serengeti Safari Park in Tanzania, the Frankfurt Zoo in West Germany, and was responsible for establishing the animal population and management program for the Al-Ahrem Wildlife Park and Reserve in Baharaiin on the Arabian Gulf.*

His Issues *article chronicles a composite day behind the scenes at the San Francisco Zoo, a day ranging from "crowning" a lion's tooth to greasing a bear's back. — ED.*



DR. CRAIG MACHADO



Dr. Craig Machado has Trouble by the tail, a preliminary handshake as the San Francisco Zoo's medical team prepares the 560-pound cat for surgery.

As a veterinarian, for what I believe to be one of the finest zoos in the world, my life is filled with medical challenges and, on occasion, hilarious surprises.

My day begins by reading the detailed animal keeper reports which note anything from a birth to a change in a cheetah's eating habits. Once the reports are completed I make "cage calls." Those visits sometimes test a vet's ingenuity. What *is* the best way to put a splint on a lemur's broken tail?

The welfare of the animals depends greatly on observation. They hide their injuries and diseases because in the wild predators look for the weakest. Our observations have been made easier with video cameras which record animal night behavior. Last year when our white tiger cub, Prince Charles, arrived at the San Francisco Zoo, he did not eat. The staff was concerned about the animal's ability to cope with his new surrounding and studied the video tape for some clues. They discovered that the cub would only consider the menu in his food dish after he was left alone and could sneak up on it.

None of the staff was trained in greasing bears.

The variety of zoo animals makes every day unpredictable. Certainly none of the staff was trained in greasing bears, but we had to learn quickly.

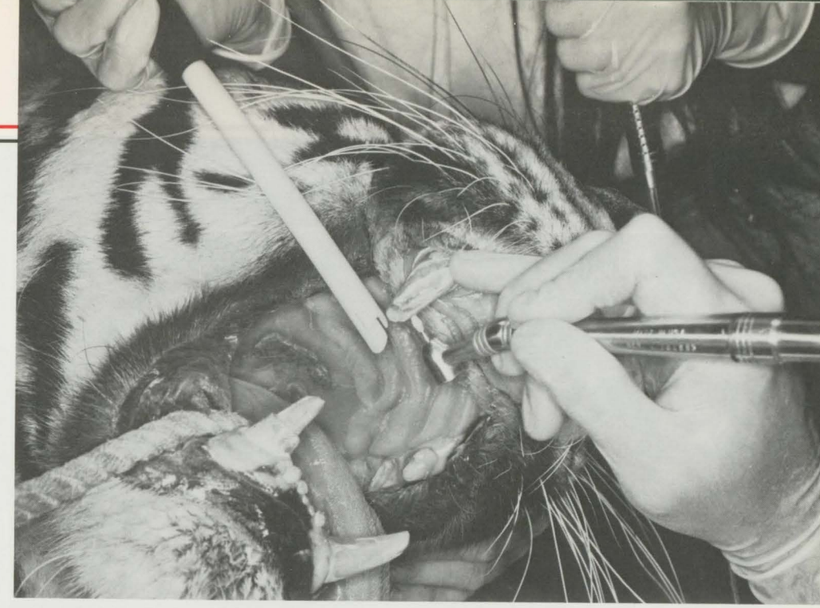
An Asian bear, scratching his back against two cement pylons, wiggled in between them and could not get out. Our animal health technician and the bear's keeper tried to pull him out with a rope around his middle, but the bear chewed through the rope. On the second try, the bear was tranquilized, an assistant poured a greasy glycerine solution on the bear's hindquarters, another quickly threw the rope around his middle and four people pulled. The relieved bear slid out.

. . . a camel I was crating fell on me.

Health care begins at home, even for animals. It is widely accepted that stress in humans can precipitate disease. It is the same for animals.

The San Francisco Zoo has built large habitats such as Gorilla World and Musk Ox Meadow to increase an animal's "flight distance." The greater the distance animals can keep between themselves and zoo visitors and keepers, the less stress they feel.

Recently, Jack, our 16-year-old Bengal tiger received quite a bit of attention. He had two root canals performed by Palo Alto endodontist Dr. Paul Brown. Jack was then fitted with two gold crowns made by Dr. Bob Turner, also from Palo Alto. Both agreed that working on an anesthetized tiger was great fun and somewhat easier than working on people.



Jack, the San Francisco Zoo's 16-year-old Bengal tiger, receives two gold crowns.

Dr. Robert Arrick, assistant zoo veterinarian, performed Trouble's vasectomy as Dr. Craig Machado (right) assists. Trouble was initially anesthetized with a dart gun by Machado.

Our approach to zoo veterinary care represents a shift from handling medical problems on a crisis care basis to a preventative care basis — the key to good health for all animals.

When people discover what I do for a living, there are always two questions that seem to work their way into conversations.

What is the best way to put a splint on a lemur's broken tail?

"Ever been bitten, clawed or roughed up by any of the animals?"

I tell people that any profession can be hazardous if you are not careful, but, yes, I was hurt once. It wasn't a lion, or a snake, or a vulture. While working at a zoo in Hanover, Germany, a camel I was crating fell on me.

Children ask, "What is your favorite animal?" My response sometimes disappoints them, but it is true, I like them all. Each animal has something aesthetic to offer us, providing we are willing to look.

See you at the zoo.

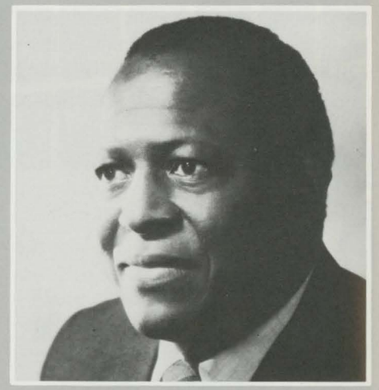
Accreditation Review: *Dr. John Ryan, president of Indiana University (second from right), headed the recently completed on-campus accreditation review. Assisting Ryan was Leo Cain (left), consultant for the Western Association of* Schools and Colleges. Representing the University were Leigh Mintz, accreditation liaison officer (second from left) and Maurice Dance, University provost and chairman of the Accreditation Steering Committee.

Congressman Fortney (Pete) Stark (9th Dist.), left, receives a presidential handshake from Ellis E. McCune at the annual business meeting of the Cal State Affiliates.

Harvard Author Founders Day Speaker

Harvard sociologist Dr. Charles V. Willie will give the Third Annual Founders Day Convocation address at 11 a.m. May 23 at the Music and Business Building Peristyle.

Active in the development of sociology as a theoretical and applied discipline, Willie is a professor of education and urban studies at the Harvard Graduate School of Education. He has been a teacher and researcher on the faculty of a university sociology department, two medical colleges, a theological seminary and a school of education.

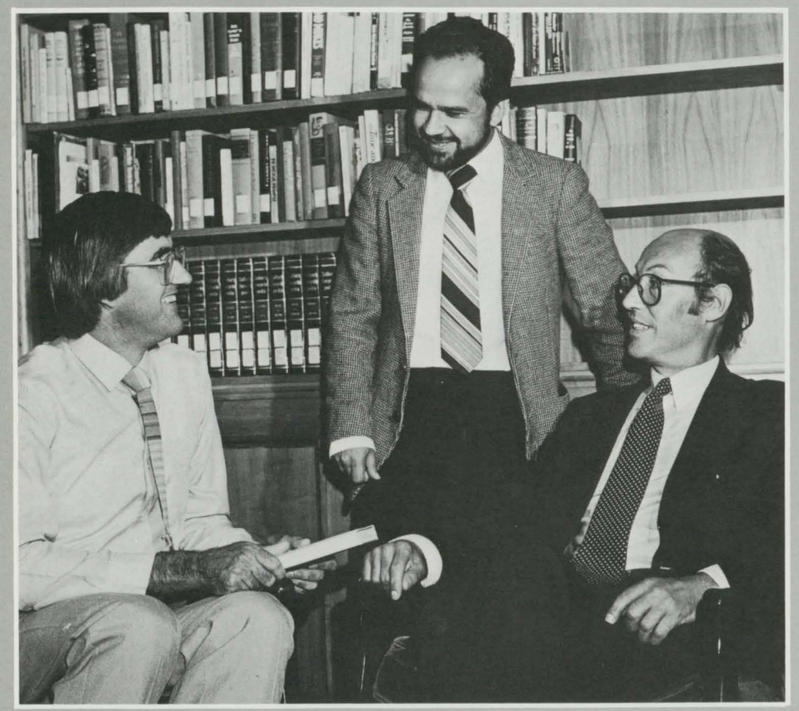


DR. CHARLES V. WILLIE

Willie is the author or editor of 16 books, 18 chapters in books and numerous articles. His most recent books are *School Desegregation Plans That Work; Race, Ethnicity and Socioeconomic Status; The Ivory and Ebony Towers;* and *A New Look at Black Families.*

In recognition of his scholarship and public service, Willie was elected to Phi Beta Kappa and was presented the Faculty Service Award by the National University Extension Association. He is also the recipient of four honorary degrees, including one from the Berkeley Divinity School at Yale University.

Cal State inaugurated its Acacia Society *by presenting awards to 17 charter members. This organization, which recognizes cumulative support to the University of $10,000 or more, represents more than $500,000 in private giving. The members are: (seated, from left) Linda Manning - Chevron U.S.A., Inc.; Leo Parry Jr. - Cal State Affiliates, Inc.; Elizabeth Neild; Stanley and June Bateman; Dean and Margaret Lesher - Lesher Communications, Inc. Second Row (from left) Jim Bussey - Commodore Computer Systems Group; William Nelson - California State University, Hayward Foundation, Inc.; Gary Wallace - Peat, Marwick, Mitchell and Company; Douglas Walsh - California State University, Hayward Alumni Association; Resti Zaballos - Resti Zaballos and Sons; Madeline Scott - California State University, Hayward Associated Students; Ken Sorensen - Peat, Marwick, Mitchell and Company; Ellis E. McCune - president, California State University, Hayward. Ernest Clements was named posthumously. Not pictured: Carol Tocher, Oscar Carlson, Y. Chet Soda, Harvey Gutman and Morris Stulsaft Foundation.*



The beginning of the academic year *saw three professors from distant countries teaching at Cal State. Jose-Luis Cagigal (center) is the University's first Fulbright scholar-in-residence, and Roger D. Hewitt (left) and Geoff Jones are both exchange professors.*

Cagigal, who is teaching in the management sciences department, is from Quito, Ecuador where he is a professor at the Catholic University of Ecuador. He also teaches a class at the Public University in Quito and has served as a consultant to the president of Ecuador.

Australian Hewitt comes to Cal State from Melbourne State College where he is a professor of teacher education. He exchanged with Al Lepore of teacher education through the fall quarter.

The history department is the exchange home of Jones who is a member of the faculty at Middlesex Polytechnic, London. His academic year teaching exchange with William Reuter continues through spring quarter.

Lt. Gov. Leo T. McCarthy met with Cal State faculty, staff and students in a fall quarter visit "to learn as much as I can about the University." He is an ex officio member of the CSU Board of Trustees.

Hirsch to Chair NCAA Committee

Judith Hirsch, assistant vice president, admissions and records, is serving a second term as chair of the Credentials Committee of the National Collegiate Athletic Association. She is also one of Cal State's two voting delegates to the Northern California Athletic Conference.

She recently was elected chair of the Nominations and Elections Committee of the American Association of Collegiate Registrars and Admissions Officers and its exhibits chair of the Local Arrangements Committee of the Pacific Association of Collegiate Registrars.

In February she will co-lead a "Workshop for Management Skills" to be offered to members of the College Board attending the organization's Western Regional Assembly.

Raymond Saunders NEA Recipient

Raymond Saunders, professor of art, has been awarded a Visual Fellowship Grant for $15,000 by the National Endowment for the Arts.

The grant, made in the area of painting, was one of 107 awarded nationally from among 3,900 applications.

RAYMOND SAUNDERS

Saunders, a member of the Cal State faculty since 1968, is an internationally known artist whose works are in many important collections including the Whitney Museum of American Art. He was the recipient of a Guggenheim Fellowship in 1976.

Currently some of his work is in the 1983 38th Corcoran Biennial of American Painting, a traveling exhibition being shown in 14 western states. He is also a poster artist for the 1984 Olympic Games.

Saunders received his bachelor's degree from Carnegie Institute of Technology and his master's from the California College of Arts. He resides in Oakland.

"Rules of the Game," *a day-long conference on higher education for women, featured two nationally known educators who urged that women's attitudes and contributions be more fully integrated into the curriculum. Keynote speaker Marjorie Downing Wagner, former vice chancellor of faculty and staff affairs for The California State University, and special guest panelist Peggy McIntosh, director of the Center for Women, Wellesley College, joined more than 100 women from throughout the state at the conference. Participating at the session were: (from left) McIntosh; Wagner; Judith Stanley, conference chair and Cal State professor of history; and Emily Stoper, member of the conference planning committee and Cal State professor of political science.*

Administrative Fellows *Lita Whitesel (left) and Arthurlene Towner review Cal State's service area as they discuss their University assignments. Whitesel, of Sacramento State, is assigned to Leigh Mintz, associate vice president, academic programs; Towner, of San Francisco State, is assigned to Maurice Dance, provost and vice president. The Administrative Fellows Program provides an opportunity for administrative experience in The California State University.*

Autumn in London! *Seventeen Cal State students and one faculty member were part of a CSU Extended Education Semester in London this fall. Fifteen of the students are shown above: (seated, from left) Elizabeth Biddell, Helena Sterling, Professor Frank D. Gilliard (chair, history department), Sara Broderick, Avis Bedard, Lynn Verrall. (Standing, from left) Patrick Milligan, David Boersma, Debra Dorn, Mary Kroetch, Lisa Texeira, Shawn Lawrence, Julie Kuzmicky, Chris Grigg, Brad Hulman, Mark Robbins. Not pictured are Sherrie Jewett and Bruce McGregor.*

Matthews Named Bay Area's Best

Dakin Matthews, professor of English, has been named Best Male Actor in the Bay Area by the *San Jose Mercury News.*

Earlier, he was honored with a Bay Area Critics' Circle Award for his performance as Ezra Mannon in the American Conservatory Theatre production of *Mourning Becomes Electra.* He also received a *San Francisco Chronicle* Outstanding Performance Award for his portrayal of George Bernard Shaw in A. C. T.'s production of *Dear Liar* and a Dramalogue Award for Outstanding Direction of the Berkeley Shakespeare Festival's country-western *Winter's Tale.*

Dakin Matthews and Mona in Two Gentlemen of Verona.

Pioneer Athletes Take Fall Honors

Cal State athletes continued to excel in both individual and team efforts in a variety of fall sports endeavors.

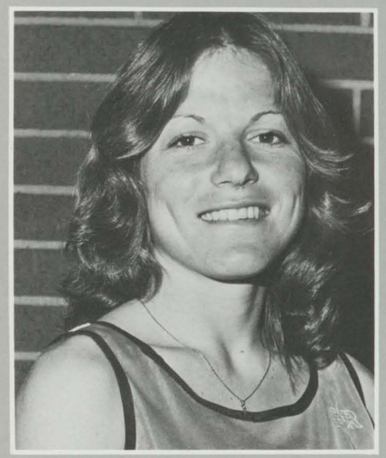
Football — For the fifth time in the last seven years, the Pioneers posted a winning record. Cal State finished the 1983 campaign at 6-4 and 3-3 in conference play, good for a third place tie with Chico State and Humboldt State. The team sported the second best defense in the conference allowing an average of 259.1 yards a contest.

Defensive tackle Don DeLand was chosen for the First Team All NCAC squad. Second team honors went to guard J.D. Willis, tackle Andy Falls, linebacker Al Simmons and cornerback Kevin Tugwell.

Women's Soccer — The Pioneer women's soccer team enjoyed its finest season ever in 1983, finishing at 11-3 and placing second in the Northern California Athletic Conference with a mark of 4-2. After a 1-2 start, the Pioneers posted eight consecutive victories, including six straight by shutouts, a new National Collegiate Athletic Association record.

Three players were named to the all NCAC First Team: Lisa DeLaRosa, Sharon Catala and Lora Powell. Danee Bugna, Teri Debok and Toni Hadnott made the second team.

Women's Cross Country — The Pioneers concluded a productive 1983 campaign with a fourth place finish in the NCAA Division II Women's Cross Country Nationals at Kenosha, Wis.



KATHY KOUDELA

For the second consecutive season, Kathy Koudela earned All American honors with a 10th place finish as she completed the 5,000 meter course in 17:42.

The Pioneers turned in an impressive performance as they tied for second in the NCAA Division II Regionals and placed second in the conference championships.

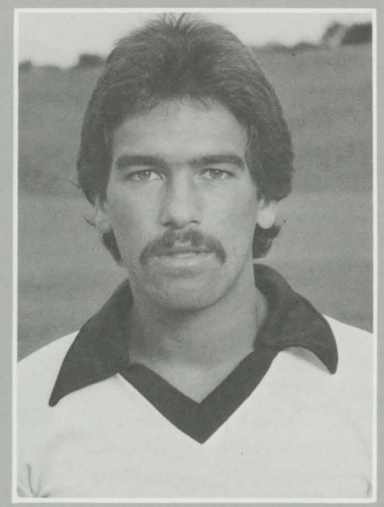
Mentor Bob McGuire was named NCAC Coach of the Year.

Men's Cross Country — The Pioneers placed fourth in the conference championships and seventh in the NCAA Division II Regionals. Al DeLaTore led all Cal State runners with a 15th place finish in 33:45.

Marcel Hetu was named co-conference coach of the year.

Men's Soccer — For the second consecutive season, the Pioneers appeared in NCAA post season play, losing to the University of Missouri-St. Louis 1-0. Ranked nationally in the top 10, the team retained its crown as conference champions with an 11-1-2 record, finishing at 13-4-2.

Grant Gollnick, the team's leading scorer at 41 points (17 goals and 7 assists) and George Fernandez were named to the First Team All Western Region squad.



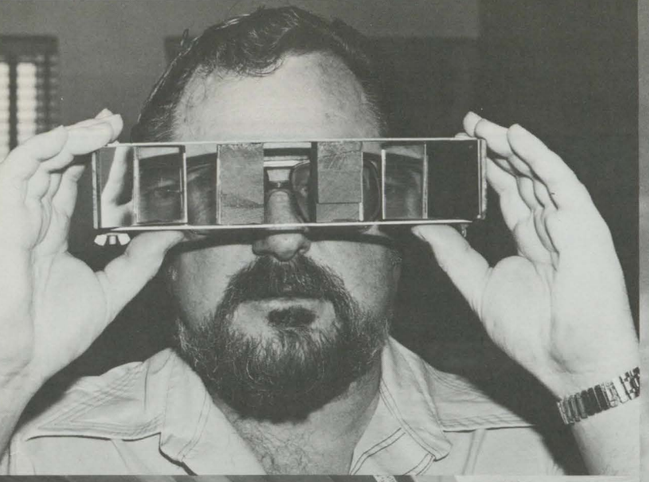
GEORGE FERNANDEZ

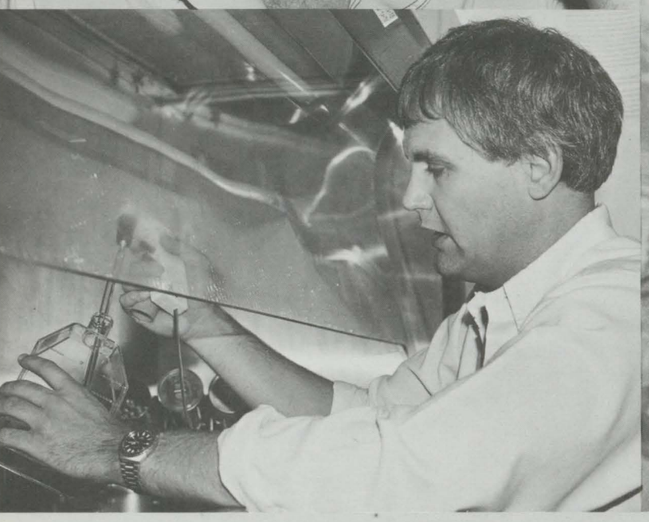
Fernandez also garnered a number of other honors. The Hayward standout was the first player selected in the Major Indoor Soccer League draft by the Cleveland Force. A 5-9, 150 pound senior, Fernandez was the Pioneers' leading scorer in 1982 and tallied 11 points in 10 games. Last season he was a first team pick on the National Soccer Coaches Athletic Association All Far West squad. He was also on the United States soccer team that competed at the Pan American Games.

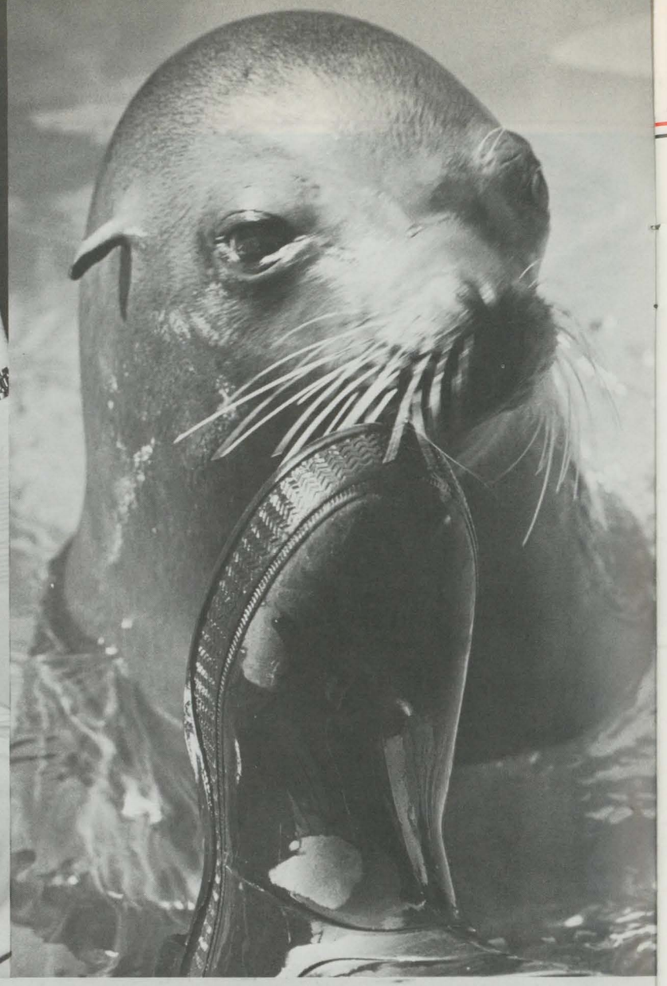
In addition to Gollnick and Fernandez, Angelo Garcia and David Hague were picked for the All NCAC First Team. Honorable mention picks included Jae Shin Ashour Yadegar.

Coach Colin Lindores was named Western Region Coach of the Year and was selected NCAC coach of the year for the second straight season.

Women's Volleyball — Cal State showed vast improvement with a sixth place showing in the NCAC at 4-10 and 4-11 for the season. The Pioneers were led by outside hitter Lillian Vilche with 146 kills and middle blocker Ticka Simon with 47 block solos.







Searching and Teaching

Cal State's Science Research

by Glennda Chui '75

Rocky, a sleek California sea lion, rests her chin on her trainer's foot at the edge of the pool. She watches with puppy-dog eagerness as the trainer signals: "Black-large-football-flipper-touch."

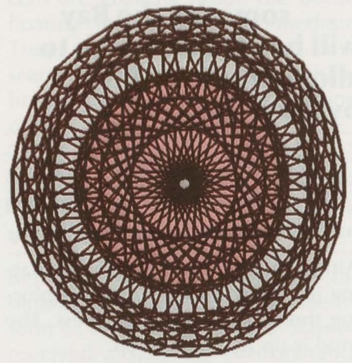
The trainer pulls back her foot. Rocky shoots to the other side of the pool, swimming past other objects floating on the water to touch the large black football with her front flipper. Then she swims back to her trainer for a reward — a piece of mackerel.

It looks like a simple trick, but it's a breakthrough in the science of animal communication. For the first time, a sea lion has learned to understand "sentences" made of a series of hand signals. In short, Rocky has learned a kind of grammar. Rocky's classroom is at the Ecological Field Station, at the end of a winding gravel road in the hills south of the Cal State campus.

"It's a type of grammar that almost any animal could use," said psychology Professor Ronald Schusterman.

"Once we give them this kind of artificial language, we can discover the rules sea lions follow for solving problems, the principles and strategies and factors that go into conceptualization."

In more than two years of training, the eight-year-old female sea lion has learned hand signals for 10 objects, five actions and five modifiers — learned to respond to 270 combinations of these signals in sentences of two, three and four "words."



Schusterman is training another sea lion, a four-year-old male named Bucky, at Marine World/Africa USA in Redwood City. Bucky has mastered 112 sentences.

The research program, funded by a grant from the Office of Naval Research, includes trainer Kathy Krieger and four Cal State students working as assistants.

The kind of learning displayed by Rocky and Bucky is much more sophisticated than what goes on in animal shows, Schusterman said. "I'm not sure what anybody means by 'smart,' because I think there are different kinds of smarts," he adds. In shows, animals only learn the signals for actions. "If their trainer signals, 'Fetch,' the animal will fetch whatever happens to be there — rings, balls, anything," he explained. "It's much more mechanical."

Schusterman's research was recently featured on NOVA, the Public Broadcasting Service science series, in a program that included communication with dolphins, orangutans and chimpanzees.

He has started another series of experiments to determine how long Rocky remembers what she has been told. Eventually, he may try a two-way system of communication allowing Rocky to "talk" back.

Meanwhile, two Cal State biologists and their students are studying another kind of marine life — tiny creatures that live in mud flats at the edge of San Francisco Bay.

Early settlers diked off most of the marshes that surrounded the Bay. But this trend is slowly being reversed. In 1980, an ancient dike was breached near the end of Winton Avenue in Hayward, creating a 240-acre salt marsh. And within a few months, another dike will be broken to create a freshwater and brackish water marsh at the end of Enterprise Road; this one will be fed with treated sewage.

But what effect will all that treated sewage, flowing at a rate of 15-20 million gallons a day, have on organisms at the edge of the Bay? That's what James Schooley and Ned Lyke want to find out.

The two Cal State biologists have a contract with East Bay Regional Park District to study the invertebrates that live on the mud flats — clams, oysters, snails, shrimp and worms, as well as microscopic animals that live between grains of sand and mud. These creatures provide food for fish and migrating ducks, and their health and abundance reflect the general health of the Bay.

The new freshwater marsh represents "a significant addition to the wildlife habitat in San Francisco Bay," Lyke said. "We feel this whole wetland complex is really an ideal research and education area, not only for Cal State, but for all colleges and high schools in the area."

Photos, P. 12, clockwise
- *Rocky gets a boot out of research.*
- *Bay mud research at low tide.*
- *Dr. Stephen Benson prepares culture of lung cells.*
- *Ronald Warren explores other dimensions.*

Photo, P. 13
- *computer generated view of a regular four-dimensional figure called a 120 cell, or superdodecahedron.*

Photos, right
- *left: Trainer Kathy Kreiger begins series of Rocky's hand signals.*
- *center: Kathy wears blinders to focus Rocky's attention on her hands.*
- *right: Rocky responds to the "sentences" she is learning.*

He said the organisms, living in the flats and marshes within 15 minutes of Cal State, are ideal places to study physiology, biochemistry and developmental biology.

Shellfish companies are also interested in the health of the mud flats, Lyke said, because they hope someday the Bay will be clean enough to allow a revival of the oyster industry.

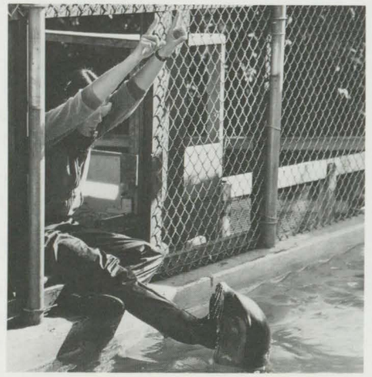
Cal State biology students have already taken samples of mud-flat animals for study. They'll continue for a year after the marsh opens, pushing pieces of plastic pipe into the mud to collect samples of the organisms that live at various depths.

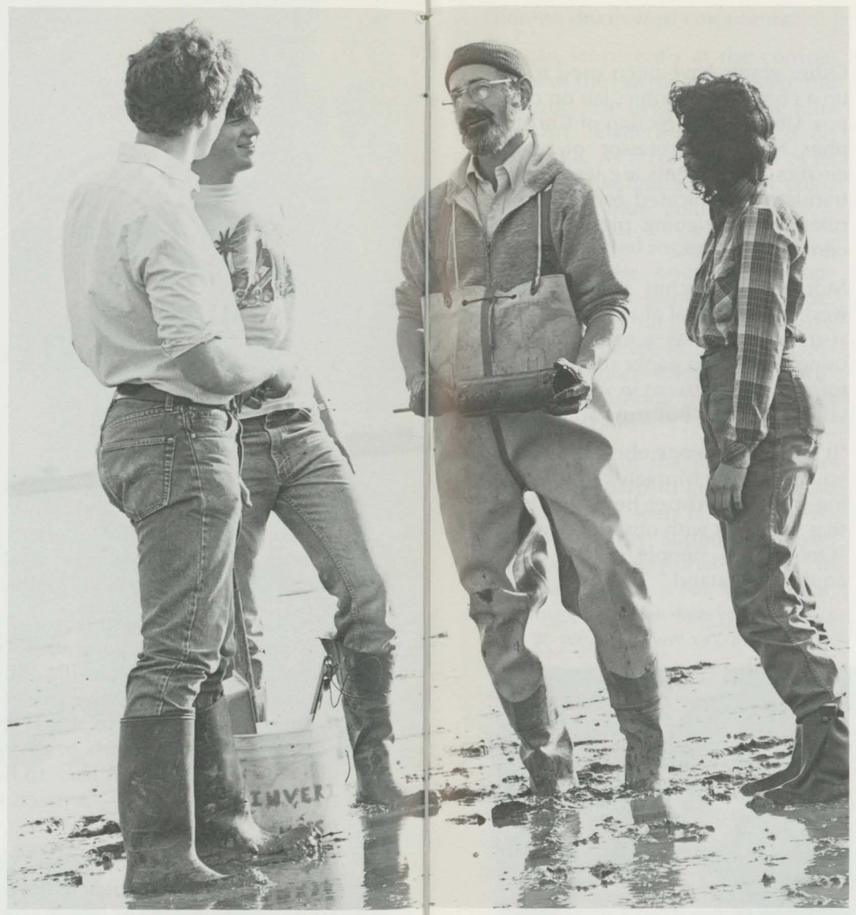
. . . someday the Bay will be clean enough to allow a revival of the oyster industry.

Each sample is brought back to the laboratory, where the animals are sifted out of the mud and preserved so they can be sorted and counted.

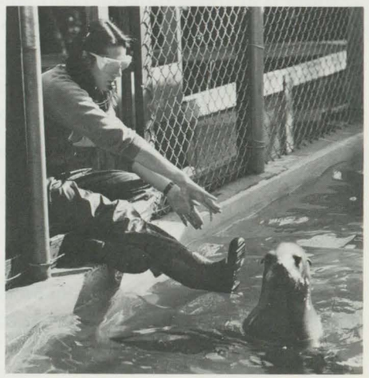
Although the mud flats are fascinating in the eyes of scientists, exploring them can be dirty business. The mud is up to a foot deep.

"In the past, some of my students have worn cross-country skis," said Lyke. "Those work pretty well when you go in a straight line — but if you have to stop and turn around, you have a problem."





San Francisco Bay mud flats serve as an excellent research classroom for Ned Lyke and his students. The new freshwater marsh represents "a significant addition to the wildlife habitat in San Francisco Bay."



In an ultraclean laboratory on the fourth floor of the North Science Building, Stephen Benson opens the door of an incubator and takes out a clear plastic bottle, shaped like a hip flask of whiskey. Millions of lung cells are growing inside the bottle, floating in a rich liquid medium. They are the primary tools in a search for the causes of a disabling human disease: fibrosis, or scarring, of the lungs.

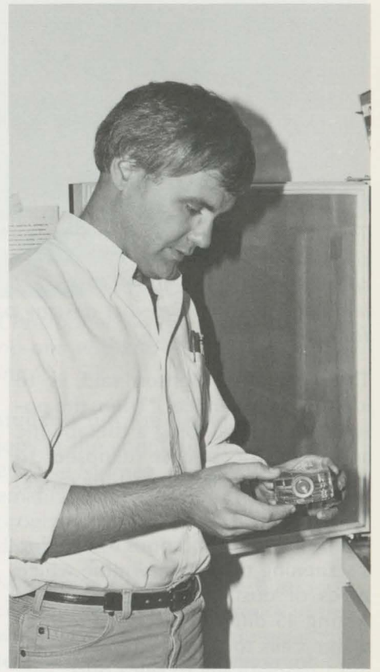
Cultured lung cells are kept in a tiny room-within-a-room.

Benson and two colleagues in the biology and chemistry departments, John C. Belton and Larry G. Scheve, received a $260,000 Environmental Protection Agency grant to investigate how two kinds of dust commonly found in polluted air — silica and asbestos — can damage lung tissue.

In the first stage of the study, Benson exposed rats to silica dust and studied the changes that took place in their lungs.

But the problem turned out to be more complicated. "Working with animals, you can only go so far," Benson said, "because you're working with lung tissue, which is composed of six or seven different types of cells."

So the research team decided to concentrate on two types of cells that can be grown in culture.

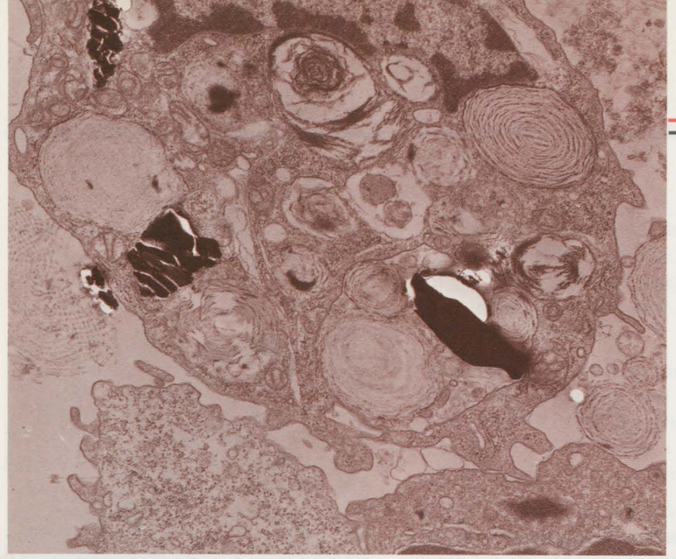


Stephen Benson examines rat lung cells in a search for the causes of fibrosis in humans.

The first type is the macrophage, a scavenger cell that gobbles up bits of dust and other foreign particles that get into the lungs. The second is the fibroblast, which produces scar tissue.

The researchers theorized both kinds of cells were involved in causing fibrosis. First, the macrophage would engulf a particle of dust; then it would somehow release a chemical that stimulates the fibroblast to make scar tissue.

Over the past two years, the study has shown the macrophage does, indeed, release a chemical that stimulates scar formation.



This Cal State electron micrograph, magnified 20,000 times, shows silica dust particles (black structures) which have been taken into some cells lining the lungs. These cells become metabolically altered and produce enzymes that destroy part of the lung and also cause formation of scar tissue.

The next step, Benson said, is to identify the chemical. "Then, the potential for developing a therapeutic approach for people exposed to dust, while certainly very long range, is a possibility," he said.

The research team hopes to develop a screening test to determine which types of dust cause fibrosis. He is testing 15 different kinds of macrophage cells to see which one reacts most dramatically to silica dust.

The fourth-floor tissue culture laboratory was built with part of the EPA grant. Three students, Brian Tanczos, Mark Souza and Gay Bush, are using it to study various aspects of fibrosis.

Cultured lung cells are kept in a tiny room-within-a-room, which is bathed in purple ultraviolet light to kill germs floating in the air — germs that could contaminate a flask and ruin an experiment.

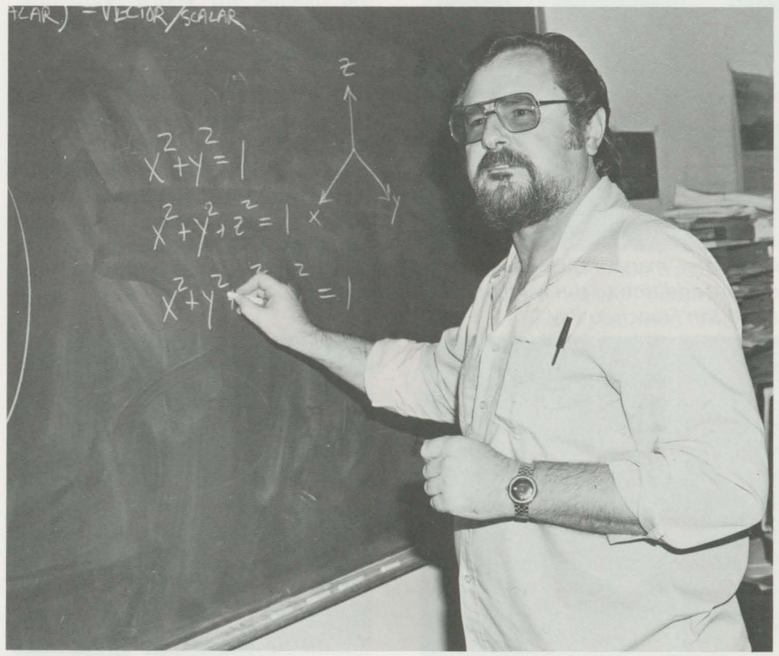
Flasks are opened under a special hood, which circulates a screen of moving sterile air that protects the work bench from contaminants. "It's a way of creating a sterile environment for working with the cells," Benson said.

The initial grant expired in August. Benson has applied for a second $396,000 grant to continue the fibrosis research.

Other grants have been used to set up a computer graphics lab on campus. Under the direction of Christopher Morgan, professor of mathematics, 30 students are learning to translate complicated formulas and rules into intriguing pictures on a computer screen.

Morgan approaches his computer work with the zeal of a convert. Four years ago, he was a mathematician using pencil and paper to figure out formulas for patterns in space. It was satisfying work, but frustrating.

"It's just that no one else knows what you're doing," Morgan said, thumbing through a paper he had written that was thick with obscure symbols. "Only a few people in the world could understand."



Post-graduate student Ronald Warren uses three dimensional chalk and blackboard to explain the eighth dimension.

Then he discovered computers.

Morgan sat recently at the console of one of the microcomputers in the laboratory. He began punching buttons. An octahedron appeared on the screen. As it rotated, each of its eight sides flashed a different color — lavender, blue, gold.

Morgan inserted another floppy disk into the console. Another figure appeared: a four-dimensional cube, called a tesseract. Its structure seemed to change as it rotated, confounding three-dimensional preconceptions about the way things ought to look.

The concept of the fourth dimension can be hard to grasp, since no one has really seen it. Morgan explains it this way: Suppose we lived in a two-dimensional world, in which everything is flat. We are flat; our houses are flat. Everything looks as if it were drawn on a sheet of paper.

One student has written programs for patterns up to eight dimensions.

Now suppose an intruder from the third dimension comes along and pokes a broom handle into our flat world. We could see the broom handle, all right, but only the part of it that intersected with our flat world. To us, it would look like a flat circle.

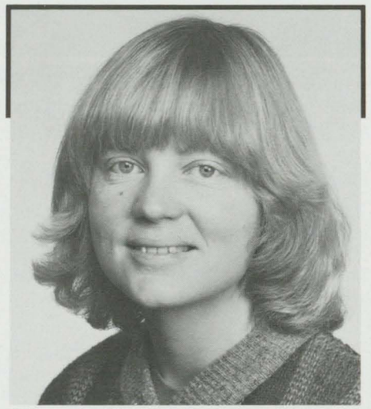
The problem is exactly the same if we try to imagine a four-dimensional object, Morgan said. It is part of a world in which a fourth direction exists, perpendicular to the directions we call length, width and depth.

When we draw a fourth-dimensional object on the flat screen of a computer, it loses a couple of dimensions in the translation. We can never perceive it as it really is. But even an imperfect picture is better than no picture at all.

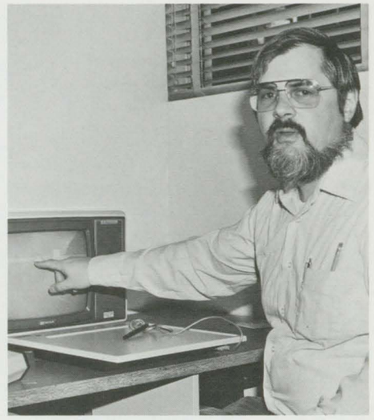
"Mathematics can be defined as the study of all interesting patterns," Morgan said, "and these are geometric patterns. The basic mathematics of these figures have been known for a long time, but exactly what you get when you get up into another dimension still holds some mysteries.

"Now, what's going on in a mathematician's head can be portrayed on a screen. It's a much more social activity. It allows me to bring the mathematics out and show it to people."

The five microcomputers and display screens in the lab were bought with a $11,500 grant from the National Science Foundation. Some students use the lab to prepare for jobs in the computer industry; others, like Morgan, pursue pure mathematics. One student has written programs for patterns up to eight dimensions.



Glennda Chui, mixing her journalistic talents with an abiding interest in living things, graduated from Cal State in 1975 with a degree in biological sciences. She was a reporter for seven years at the Hayward Daily Review *and wrote for the* San Francisco Chronicle. *Glennda, 30, is currently working toward a master's degree in journalism at UC Berkeley, and is supporting herself with freelance writing for newspapers and television news.*



Christopher Morgan: "It's just that no one else knows what you're doing."

Morgan has written two books on computers and has two more in the works. He teaches computer architecture as well as computer graphics, and prowls computer conferences looking for ideas.

"As soon as I learn a certain technique, I try to teach it to my students," Morgan said. "My research is very tied in with my teaching. I find out what's going on in the big labs. It can go in my lab, too."

Cal State Affiliates List Scholarships

Since 1963 the Cal State Affiliates have offered their time, talents and resources to enhance the relationship between the University and community. During the two decades since its inception, this organization has established many programs of private financial support, but the one which most directly affects the Cal State students is the Affiliates' Scholarship Program.

"During the upcoming 1984-85 academic year, the Affiliates' Scholarship Committee will award 24 scholarships totaling more than $10,000," says Pat Singleton, committee chair.

"Since the first scholarships were inaugurated in 1971, the Affiliates' Scholarship Committee has granted more than $75,000 in student support with more than 200 scholarships."

This ongoing support of the University's scholarship program can be seen with the wide range of academic areas supported by the Affiliates listed below.

BUSINESS/ECON
Orland A. Close Scholarship
Walter Menzies Scholarship

MUSIC
Eugene Tucker Scholarships

SCIENCE/MATH
Ernest Clements Scholarship
E. Guy Warren Scholarship

UNDERGRADUATE
Y. Charles Soda Scholarship

UNRESTRICTED
George Phillips Scholarship
Jack Rees Scholarship

Anyone wishing to support these current scholarships, or establish a new program, should contact The Affiliates' Scholarship Committee, Office of University Relations, California State University, Hayward, CA 94542, (415) 881-3878.

Acacia Society Alumni: *When Dr. Ellis E. McCune presented the crystal vases to the University's Acacia Society charter membership, he also had a chance to meet alumni. Pictured with McCune are Cal State alumni who represented their organizations or companies: (from left) Jim Bussey '68, Douglas Walsh '71, Gary Wallace '75 and Linda Manning '78.*

University Receives Seismology Collection

The Cal State department of geological sciences and the University Library have received a major collection of seismological data and publications. "It came in more than 130 cartons and the importance of acquiring it is in the amount of unpublished and original manuscripts as well as other works we would not be able to acquire otherwise," says Melissa Rose, Library director.

CAROL TOCHER

The gift, housed in a special room in the Library, was presented to the University by Acacia Society member Mrs. Carol Tocher of Berkeley. The material was part of a professional collection of her late husband, Donald Tocher, an eminent scholar in seismology.

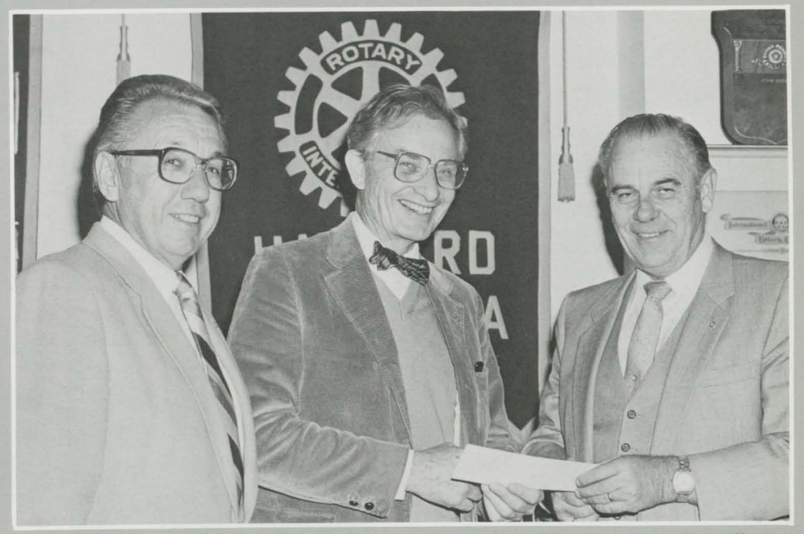
"These materials, many not even available in major research labs, will be most useful in the support of the department's graduate program with its emphasis in applied geology," commented Department Chair Elwood Brooks.

Alumni, Affiliates Co-Sponsor Theatre Party

Cal State's two most active constituencies, the Cal State Affiliates and Alumni Association, will co-sponsor a third annual Theatre Gala on Sunday, March 11.

In conjunction with the Cal State's department of communication and theatre presentation of *West Side Story,* the Affiliates and Alumni will offer a champagne and hors d'oeuvre reception following the 2 p.m. matinee.

Theatre Gala information is in the mail. Tickets are $12.50 (now payable on VISA/MasterCard). For further information contact the Office of University Relations, (415) 881-3878.



Hayward Rotary Club *President Frank McCullough (right) presents Dr. Ellis E. McCune with a $1,000 check for Cal State's participation in the Club's Fifth Annual Concours d'Elegance. Leo Parry (left) was the project's chairman.*

Associate Professor of Accounting Robert Van Spyk (left) discusses the University's newly established School of Business and Economics computer lab with Tom Allison, Diablo Systems manager of production, planning and control, and King Collins (right), the corporation's manager of employee services. Diablo Systems contributed a Xerox 820-1 computer and two printers to the lab. Barbara Justice (second from right), a Cal State accounting major, served as a student intern at Diablo Systems' Fremont plant and was instrumental in the corporation's participation in the microcomputer lab project.

Library Receives Grabhorn Volume

One of the best examples of West Coast fine bookmaking and printing has been added to the University Library's special collections.

Purchase of *The Voyage and Travaile of Sir John Maundevile,* was made possible by a $1,000 gift to the Library by the late Dr. Stafford Warren in memory of his brother, E. Guy Warren.

Only 150 copies of *Maundevile* were published in 1928 by San Francisco's renowned Grabhorn Press. The folio-sized book was the first printed in America using the type face Bibel Gotisch (Jessenschrift). Artist Valenti Angelo drew 31 illustrations and created 34 elaborate initials which he lettered and hand colored in red, blue and gold for each copy. The Library's book was Angelo's personal copy and signed by him.

Adair Warren and son, Richard, were among the first to view the 1928 Grabhorn publication.

***Indian Consul General** Deb Mukharji (second from left) and his wife visited the* A World in Transition *exhibit at Cal State's Clarence E. Smith Museum of Anthropology. Hosting the tour were Asian Studies Program Director Willem W. Van Groenou (left) and Anthropology Department Chair Edward J. Jay.*

Arts, Letters, and Social Sciences

Alan M. Smith, Dean

The computer revolution, which has had a highly visible impact on business methods and scientific discovery, has also brought major changes to the social sciences. In the following article, Professor Daniel Graves (political science) shares his observations concerning how new computer technology has altered the nature of some social science research.

A revolution has taken place in social science research as a result of three important and related developments: the revolution in computer technology itself, the availability of software packages, and the access to large and complex data bases. Researchers have at their fingertips a tremendous range of capabilities to process huge amounts of data at astoundingly fast rates.

Gone are the days of punch card technology where the most sophisticated analyses possible were frequency counts and tables produced on a counter-sorter. By the 1960s the norm was batch processing on large mainframe computers with a turnaround time of up to a week. As more efficient machines were built, the time was reduced to a few minutes.

The 1970s witnessed the introduction of interactive computing and timesharing. This was a particularly welcome relief for social scientists accustomed to working with very large data bases. Through the remote terminal, we entered data which was then stored on tape or disk. I no longer had to lug around 50 boxes of cards containing Indian election and consensus data.

In the 1980s we are experiencing the proliferation of microcomputers. Now, with a personal microcomputer, a proper phone connection and dial up access to the campus mainframe computer, I can enter data, access a software package and execute the desired statistical analysis without leaving home or office.

Hand tabulation and desk calculator statistics are a thing of the past.

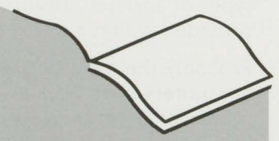
Hand tabulation and desk calculator statistics are a thing of the past. With the development of mainframe computers came an array of easy-to-use software packages for data analysis. These packages provide an endless variety of statistical routines — from simple frequency counts to the most esoteric and sophisticated types of analyses. Results are usually provided within a few seconds.

Probably the most profound impact computers have had on the social sciences is in increased research possibilities. High speed computing capability allows us to conceive of projects unheard of as recently as 20 years ago. This is especially true in the area of survey research where the investigator in a single study may deal with thousands of respondents and hundreds of variables. According to Cal State Professor David Graeven (sociology), it is highly unlikely he would have obtained his research grants without the support of computer technology.

Cal State Professors George Coerl and Carl Bellone (public administration), who are engaged in a project to interview city managers and department heads throughout California, also say their research would not have been feasible without computer technology.

As the computer revolution continues, a corresponding revolution will occur in social science research.

Dean Alan M. Smith (left) discusses plans for the Carobeth Laird Symposium with Lowell Bean, symposium moderator.



Business and Economics

Jay L. Tontz, Dean

While business schools are not usually thought of as community service organizations, they are, and they should be. This is especially so for an urban, tax-supported institution such as Cal State. I would like to call attention to a few of the community service activities offered by the School of Business and Economics.

The Institute of Research and Business Development within the School engages in various activities and programs. One of these programs, headed by Dr. Reuben Krolick, director of the Institute, and involving 15 faculty members, conducts workshops and provides counseling to small business owners and managers in our service area. This program is funded by a grant from the Private Industry Council and involves a close working relationship with local chambers of commerce. Other major programs of the Institute include a comprehensive management consulting program with a large East Bay hospital and an annual workshop on taxation that attracts professionals from throughout the United States.

Another project with a small business focus is run by Dr. Ricardo Singson, director of the Small Business Institute. It provides free consulting to local businesses by teams of advanced students under the guidance of a faculty member. This program is funded by a grant from an integral part of one of the courses offered by the department of marketing.

A third program of considerable importance to the School and the community is the Volunteers in Tax Assistance, better known by its acronym VITA, coordinated by Professor Jeff Shaw of the department of accounting. In 1983, VITA operated seven tax assistance centers in the community and helped more than 2,500 people with tax returns. In addition to providing a valuable free service, VITA allows a large number of students to gain important practical experience in taxation and in dealing with the public in a professional capacity. As with the small business program, VITA is an extension of the classroom instructional process.

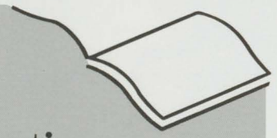
School of Business and Economics Dean Jay Tontz (right) discusses computer hardware with Mike Rogers '80, CompuPro's vice president for finance and administration. CompuPro's continuing support of the School of Business and Economics through its computer equipment gifts-in-kind has earned the Hayward corporation membership in the University's Acacia Society.

VITA operated seven tax assistance centers in the community and helped more than 2,500 people with tax returns.

In addition to these faculty-inspired projects, various student organizations within the School provide an array of services to the community. They range from blood drives promoted by Beta Alpha Psi, accounting honorary society, and the Cal State Accounting Association to the legislative project of the American Society for Personnel Administration (ASPA). The latter tracks California employment-related legislation and provides a monthly report to the Northern California Human Resources Council, the 700-member local ASPA affiliate.

This list is by no means exhaustive. However, it is comprehensive enough to demonstrate the synergistic relationship of instruction, research and service.

California State Supt. of Public Instruction William Honig receives a Cal State crystal cup from School of Education Alumni President Carolyn Stuckey '65. Honig was on campus to speak at an educational forum sponsored by State Senator William Lockyer (left) and State Assemblyman Johan Klehs '75 (second from right) and the Alumni Chapter.



Education

James E. Walker, Dean

California now requires its teachers to pass the California Basic Educational Skills Test, commonly referred to as C-BEST. It is designed to assess the basic skills in the areas of reading, writing and mathematics.

The need for a test such as C-BEST has grown out of local, state and national concern regarding the quality of teacher preparation. At present, no standardized tests predict with certitude who will become an effective teacher. However, with tests such as C-BEST, we can identify teachers, or potential teachers, who possess certain academic capabilities in specified areas.

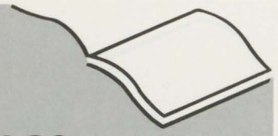
For our part as teacher educators, the C-BEST results must be scrutinized to insure that they help us improve the quality of teaching. At least three important questions about C-BEST must be answered.

1. *What is the relation between test scores on C-BEST and subsequent success or failure in teaching?*
   Data concerning C-BEST scores and success on the job must be gathered to determine this answer. I am aware it is still too early in the testing process to successfully make this determination. However, it is something we must keep in our minds as one of the things we want to know about the C-BEST.

C-BEST should not be viewed as an insult to teachers and teacher preparation programs.

2. *Does C-BEST fairly and equitably assess both sexes and all racial/ethnic groups?*
   Many achievement tests used in prior years have been found to have biases, usually unintended, which result in major inequities in selection/retention of women and minority group members. We need to examine the C-BEST results with these factors in mind and revise the test, if needed, to correct such deficiencies.
3. *Can the results of the tests be used to diagnose university curriculum areas which may be in need of revision?*
   Test scores must be given to students to help them diagnose areas of needed improvement. The scores obtained by the students at each university might be used to determine whether the university curriculum is producing desired results. If the test is valid, then prospective teachers who do well at the university should also do well on the C-BEST.

C-BEST should not be viewed as an insult to teachers and teacher preparation programs. It is, instead, a means of conveying to the public and the profession the notion that educators are concerned about the quality of teachers. We perceive C-BEST as being a positive step in that direction.



Science

Dennis R. Parnell, Dean

Technology alone cannot improve instruction. It can, however, expand the capabilities of an already proven teacher. Examples of the new technology in the School of Science are the Interactive Computer Classroom and the Electronic Demonstration Classroom.

The Interactive Computer Classroom is based on 15 Morrow Micro Decision computers for students tied to a Morrow Decision I for the instructor. The interactive teaching made possible by this innovative network can be used for a variety of courses and has been shown to be many times more effective than that allowed by more conventional classrooms.

Interesting custom software written locally by Professor Marvin Winzenread (mathematics and computer science) enables the instructor to perform several tasks: 1) to transfer a programming language or an example program from the instructor's disk to the students' computers; 2) to display on the students' monitors what is on the teacher's screen; 3) by having the student's screen echoed on the instructor's screen, to observe the student's progress and to take over, if necesary, in order to show the student what to do. The custom software also permits the students to transfer a file from their disks to the teacher's disk, to transfer a file to either of the printers, and to save a screen display in a file for printing at a later time.

The Electronic Demonstration Classroom is another example of the new technology in the service of education. This equipment has been successfully used by several instructors for data display in terminal sessions. It has also been used for in-class demonstrations of various concepts in the computer graphics course.

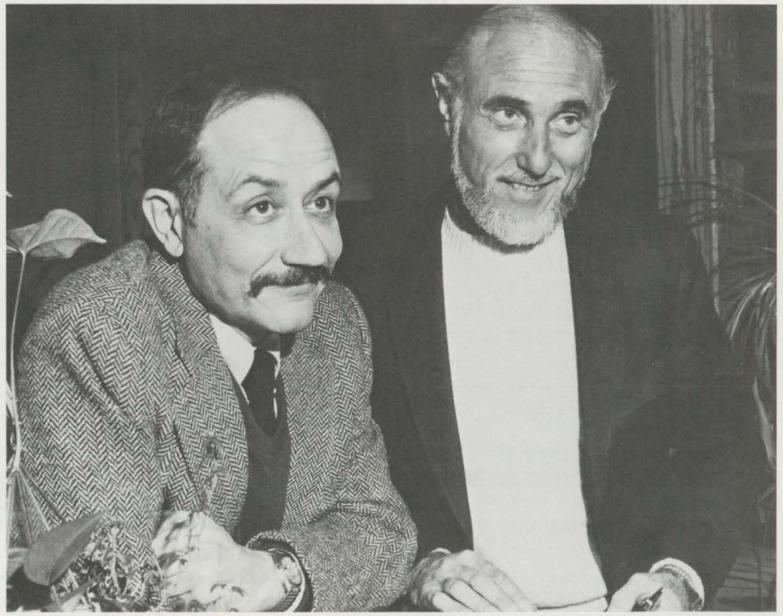
Interactive and Electronic Demonstration Classrooms represent just the beginning of our use of new technology.

The equipment in this classroom is compatible with the equipment in the newly furnished Computer Graphics Laboratory. This makes it possible for faculty and students to design demonstrations for the classroom at the same time that it is being used. This is essential because the classroom is in continual use.

Special software has already been designed by Professor Christopher Morgan (mathematics and computer Science). As more software is developed, we plan to use this classroom to demonstrate concepts in computer science courses such as computer architecture, computer graphics, and mathematics courses such as calculus, differential equations, numerical analysis and linear algebra. In these classes, computer and mathematical processes will be illustrated with dynamic and interactive display.

The experience so far in the computer graphics course indicates that certain concepts can be demonstrated and discussed much more effectively when the video image, the instructor and the students come together in the classroom.

The Interactive and Electronic Demonstration classrooms represent just the beginning of our use of new technology to enhance the quality of instruction in Cal State's science programs.



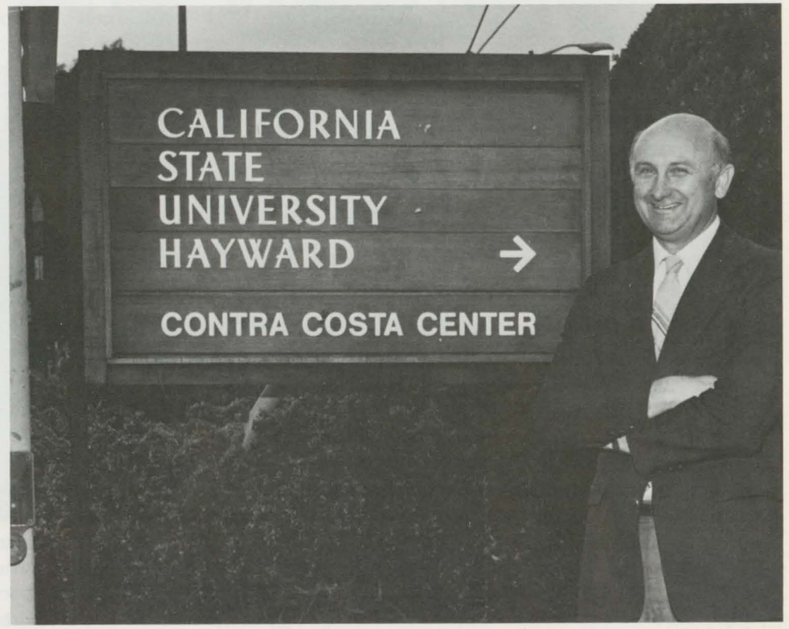
Dean Dennis R. Parnell (left) and psychology Professor Ronald Schusterman discuss animal communication research at Cal State.

Herb Graw, Coordinator

While maintaining our strong emphasis on serving enrolled students, we at the Contra Costa Center do not forget we must also attract others. The largest single group receiving our attention is students at community colleges. Contra Costa County supports three excellent community colleges, and neighboring Solano County is also a valuable source of new students. Lists of preparatory community college courses have been circulated and meetings have been held with each college's faculty, counseling staffs and administrative officers to update them on Center programs.

. . . our efforts must continue and new avenues are always being explored.

The existence and growth of the Center is publicized in other direct and indirect ways. The Center bulletin is distributed through the public library system and numerous copies are mailed to civic groups. Press releases describing new programs or significant developments in existing programs are sent to interested organizations. For example, chambers of commerce are asked to publicize the master of business administration degree, city and county offices are notified of the scheduling of the master of public administration program, and school districts receive publicity regarding programs in education.



Herb Graw, coordinator of the Contra Costa Center, develops programs to meet county neesds.

Additionally, the *Contra Costa Times* publishes a series of articles entitled "Inside Education." Four articles, three by Hayward faculty, the fourth by a Cal State class of prospective school administrators, have appeared. As Center director, I make presentations to local service clubs, participate in the local Industry-Education Council and visit public and education officials.

Are these efforts having the desired effect? If the criterion is interest and enrollment at the Center, then the only answer is "yes." But our efforts must continue and new avenues are always being explored.

The Contra Costa Center is a geographic, rather than academic, division of Cal State. This facility has a unique relationship to the entire academic spectrum of the University and is, therefore, included in the Schools section. — ED.

Alumni

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Mary Bloomer has retired as a first grade school teacher with the Brentwood school system. She is now enjoying gardening, seven grandchildren and traveling.

Linda Newcomb is an accountant for Sea-Land Service at the Port of Oakland.

Ardath Stuerhoff has retired as an elementary school teacher and is completing an A. A. in gerontology.

LaKay Weber teaches in a bilingual kindergarten in Newark. She has five children and six grandchildren.

64

Diane Levitan is a western divisional administrator with International Educational Systems. She works with the University to provide job opportunities for bilingual students.

DIANE LEVITAN

DR. MICHAEL J. McCARTHY

Dr. Michael J. McCarthy is in his ninth year as president of Saint Mary of the Plains College in Dodge City, Kan.

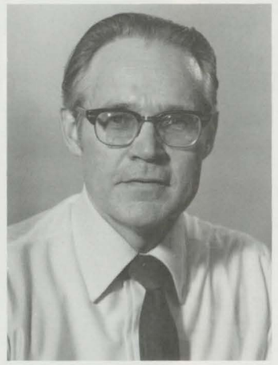
65

Tom Daldorf is owner and manager of the Vintage Cellar Wine Shop, Hayward.

66

Sharon Erickson is serving with the World Radio Missionary Fellowship, Inc., in Quito, Ecuador. In addition to broadcasting and recording work, she plays the violin with the Ecuadoran National Symphony and teaches piano and violin.

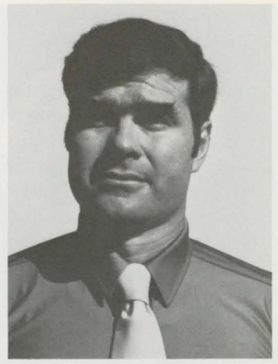
Eldridge C. Schlottman, an attorney, is combining his long-standing love of cinematography with his passion for travel in the production of travelogue films.



ELDRIDGE C. SCHLOTTMAN

67

Charlene Stewart has been named chief for licensing and certification in the California State Department of Health Services.



COURTNEY ISSELHARDT

Courtney Isselhardt, senior exploration geologist for Republic Geothermal, Inc., is working on exploration and development of geothermal resources in Alaska, Japan, the Caribbean and California.

68

Michael Sweeney is mayor *pro tempore* of the city of Hayward.

69

Ronald J. Herleman serves as a prosecutor in the Kings County District Attorney's office.

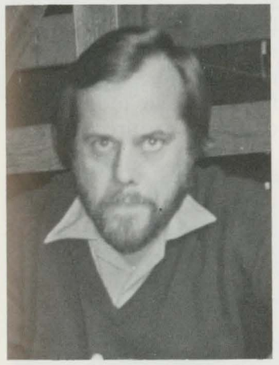
71

R. Michael Lenahan Jr. is business manager for the San Lorenzo Unified School District.

Robert A. Packard has been appointed director of the MBA program at Nichols College, a four-year independent college in Dudley, Mass.

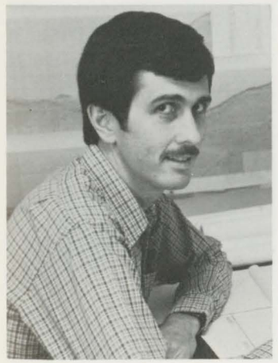
Barbara A. Tarver has been named manager of real estate services at the Bank of Contra Costa in Walnut Creek.

Steve Abbors is the supervising naturalist at Tilden Nature Area and Wildcat Canyon Regional Park, Berkeley. He continues to lead his early morning weekly birdwalk excursions which have been popular with Bay Area residents for 10 years.



STEVE ABBORS

Thomas H. Shipley is a research scientist at the Institute for Geophysics, University of Texas at Austin.



THOMAS H. SHIPLEY

Cal State alumni and faculty *are well represented at the Oakland Symphony Orchestra. Current symphony members include: (seated from left) Gary Smith '78, bass clarinet and Ross Gershenson '77, French horn. (Standing, from left) Dan Livesay '70, principal trombone, faculty; Matthew Russell '81, trumpet; Nathan Rubin, concertmaster, faculty; James Hurley, viola; Ward Spangler '80, percussion; Sharon Lyons Colonico '82, violin; Norman Peck, percussion; Adrienne Blackshere '81, violin; William Morrow, French horn and Carl Stanley, string bass. Not pictured are Jerome Neff, assistant director and percussion, faculty; Larry Blackshere '70, percussion; Diane Maltester, clarinet; and Marvin Nelson '72, trumpet, faculty.*

72

Wanda N. Bray, an investment counselor with Frank Ramos, Inc., is president of the Hayward Education Fund.

Patricia Campbell has been named vice president and marketing manager for the Bank of the West.

PATRICIA CAMPBELL

73

TERESITA SCHROEDER

Teresita Taitano-Pangelinan Schroeder has been elected president of the Guam Territorial Society of Washington, D. C.

Janet Owen is business development representative for Bechtel Research and Engineering.

Thomas Rose is assistant vice president of Home Savings of America, and manager of the firm's Stockton branch.

74

Michael E. Koslosky is a naturalist at the Sulphur Creek Nature Center, Hayward Area Recreation and Park District.

Pat Kelly is in private practice in Fremont as a marriage, family and child counselor. She is also working on a doctorate in clinical psychology at the Palo Alto School of Professional Psychology.

Gary McLaughlin is one of four rangers stationed at Mt. Diablo State Park.

75

Lawrence Granger is a cellist with the San Francisco Symphony Orchestra.

LAWRENCE GRANGER

Lawrence R. Lepore has been named director of maintenance and operations for the Hayward Unified School District.

Cliff Marchetti is the new director of leisure services for the city of Hercules.

76

Dick Rogers has been promoted to the position of managing editor of Hayward's *The Daily Review.*

77

Nancy Johnson, a lyric soprano, is lead singer with the Mannheim Opera Company in Germany.

NANCY JOHNSON

78

Janet Sally is practicing veterinary medicine in Arroyo Grande.

Judy V. Belk has been appointed director of public affairs for the Association of Bay Area Governments.

79

Donald R. Brophy III has received a doctor of chiropractic degree from Palmer College of Chiropractic-West.

Gayle Pawloski is a database manager of the Continental Scientific Drilling Program at Lawrence Livermore National Laboratory.

Robert S. Colclasure has been promoted to captain in the U.S. Air Force.

80

Stephen D. Baughman is regional marketing manager for SRI International in the New York office.

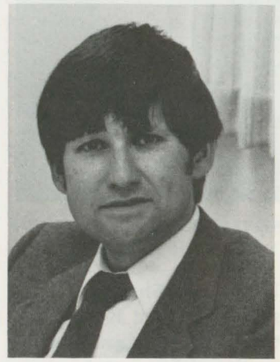
Irma Lerma is vice president of La Familia Counseling Services and is completing work on her marriage, family and child counseling license.

Joan Kelley is the new director of the Contra Costa Children's Council.

JOAN KELLEY

Annette Turner is studying nursing at Samuel Merritt Hospital College of Nursing and has been awarded one of two Eden Hospital Auxiliary Scholarships.

Cyril R. (Randy) Wanamaker is subsurface resource manager for Sealaska, one of the Alaskan native Indian corporations. He also is serving as chairman of the Indian Education Committee, a K-12 federal program to improve basic education for American Indian children in urban areas.



RANDY WANAMAKER

80

Felicita d'Escrivan Alberch '80 is research and curatorial assistant at the Museum of Comparative Zoology, Harvard University. As a research assistant, she works for Dr. Stephen J. Gould, internationally known paleontologist and award-winning author, and Dr. William Berggren of the Woods Hole Oceanographic Institution. As a curatorial assistant, she works with Dr. Gould in the rearrangement and classification of the collection of invertebrate paleontology. In addition, she is working with Dr. Anthony Arnold (shown above) of Florida State University, Tallahassee on a study of the foraminiferas found in the Galapagos Rift.

81

Joseph D. McVein is a starting member of the USA national Team Handball Club and is training for the 1984 Summer Olympic Games.

82

Joe Ambrosino is a soils lab technician and geologist with Engeo Inc.

83

W.E. Thorbrogger Jr. is a tax accountant with Crown Zellerbach.

KAREN L. HOLT

Karen Lee Holt has been named accountant at Eden Hospital, Castro Valley.

Alumni Board Election Data

The Cal State Alumni Association is seeking candidates and nominations for the Alumni Board. Membership is comprised of 12 University graduates of which eight will be elected this spring and installed at the Alumni Dinner, April 28, 1984. Elections will be held for president, vice president, secretary, treasurer (one-year terms) and four directors (two-year terms). Requirements for candidacy are that all candidates must be dues paid members (annual or life) of the Association and be willing to work to further the goals of the Association and the University.

Interested Alumni should use the space below to provide the Nominations Committee with appropriate information. All candidates will be contacted by the committee for ballot information. Alumni dues ($15.00 annual or $100 life/four quarterly payments of $25) may accompany applications. All candidate forms must be received by March 1, 1984. If you have any questions, call the Alumni Office at (415) 881-3878.

Alumni Board Candidate (check one):

Pres. ☐ V.P. ☐ Sec'y ☐ Treas ☐

Name _____ Class Year____

Address _____ Degree_____

_____

_____

_____

_____

_____

_____

Mail to: Alumni Assoc., California State University, Hayward, CA 94542

also...

Letters

Congratulations on an excellent publication — ACACIA. With this magazine, our University has taken important steps toward *creating* news, rather than waiting for events to occur.

— Asoke Basu
Professor of Sociology

I just received and have read the first outstanding issue of ACACIA. Congratulations on a great effort.
Keep up the good work.

— Tim Marsh
Oregon State System of Higher Education
Eugene, Oregon

The first edition of ACACIA is beautiful. Congratulations for developing such a magnificent publication. The graphics were excellent, but I think that the thing I like the most about it was its positive presentation of the University. I'm sure it will encourage people to support the University in all kinds of ways.

— Joan Seavey Thomas
Associate Dean of Students

I want to compliment you on your first issue and also correct an error in the School of Science column. A line was deleted from my copy defining the department components of the School of Science. Psychology, Nursing, and Physics were left out. Please print the correct description.

— Dennis R. Parnell
Dean, School of Science
Sorry. We did drop a line. — ED.

— *The School of Science offers undergraduate instruction in the biological sciences, chemistry, geological sciences, mathematics and computer science, statistics, nursing, physics, psychology and health sciences.*

Just received a copy of ACACIA for Fall 1983. I want to congratulate you on an excellent publication — one which I am sure will play a positive role in building the kind of image for Cal State Hayward that will result in increased support from your constituents.

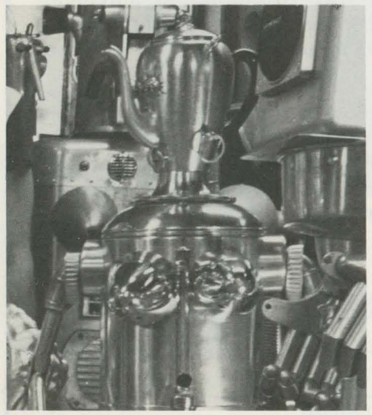
I know that getting the funds, approvals and technical help to produce such a fine piece is no easy task — again my congratulations on a fine job.

— John C. Rowett
Development Director
Cal Poly, Pomona

I just read the new ACACIA magazine, and I think it's GREAT. Congratulations. It's exceedingly handsome, interesting and informative, and obviously a wonderful visible vehicle for noting those who give to the University. (I suspect there will be more in the near future.) Let me say, too, that I hope you have a dedicated editorial staff in place, as I've seen other promising publications initiated on this campus, only to last through Vol. 1, No. 1, and then disappear — ACACIA should make such an impact that an early demise would be extremely disconcerting indeed. Anyway, you are off to a more than promising beginning — please don't become distracted from keeping up the high quality of your first issue — this is just what we've needed for YEARS.

— Elwood (Woody) Brooks
Professor of Geological Sciences

Robot Revisited



I was banned in Berkeley.

Then I was laser-scanned all over the world.

I'm uncomfortable with rejection. And I'm nervous about international fame.

I'm glad to be back.

— Sweetheart

No, it's not Mr. Chips.

The portrait is of Alfred Steiglitz, a pioneer in American photography and patron of the arts. He is photographed in front of a painting by his wife, Georgia O'Keefe, a prominent American artist with an international reputation. The 1934 photo, taken in Steiglitz's New York gallery, is also of interest because of its photographer. The signature is that of Imogene Cunningham (1883-1976) who lived in San Francisco and became internationally acclaimed as a brilliant portraitist. Cunningham and Steiglitz were giants in the formative years of American photography.

This unique portrait representing three of America's great artists is a gift to Cal State from Irving Conklin of San Leandro. It is on permanent display in the University Library Special Collections Room with more than 11,000 unique volumes and collections which range from Marco Polo to Mad Magazine. The public is invited to visit the Special Collections Room and experience this one-of-a-kind repository for rare and valuable manuscripts. Hours are Monday through Thursday, 1-4 p.m. For further information call (415) 881-4054 during open hours.

CSU HAYWARD **STUDENT SERVICES**

ALUMNI NETWORK

May we include you in our Alumni Network? If you are willing to be a career consultant to currently enrolled students, please complete and return this card.

Thank you.

Name: _____

Title: _____

Business Address: _____

_____

_____

Business Phone: _____

I graduated in _____ with a _____ in _____ and _____.
Academic Year Degree Major Minor

Ethnicity: _____

CSU HAYWARD **STUDENT SERVICES**

ALUMNI EMPLOYMENT DATA

Please take a moment to complete and mail this pre-addressed, postage-paid card to assist in research and in employment efforts. Thank you.

1. Graduation Year: Major Minor
2. Career Field/Occupation: _____
3. Current Position Title: _____
4. Responsibilities: _____
   _____
   _____
5. Length of Time in This Position _____ Salary _____
6. Date Employed in this Job: _____
7. Did You Have Prior Experience in this Career Field? Yes _____ No _____
8. How Did You Obtain This Position? _____
9. Years of Work Experience in Your Field: _____
10. Sex: _____ Male _____ Female Age: _____ Ethnicity: _____
11. Does This job Relate to Your College Major? Yes _____ No _____
    How? _____
12. Is an Advanced Degree Necessary? Yes _____ No _____

2/84

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HAYWARD
Hayward, CA 94542

ATTENTION: Counseling Services

Dear Cal State Alum:

The Career Coordinating Group is expanding its career information services. Occupational data obtained directly from people on the job can be a solid basis for making career decisions.

You are a valuable resource because you participated in the same academic experience programs as our current students. The common experience makes the task of contacting professionals easier for the student and can facilitate acquisition of up-to-date job/occupational information.

By completing the enclosed Alumni Employment Data Card, you supply students with information not readily available elsewhere. The descriptions are kept on file with other career literature in the Career Planning and Placement Center. You may also serve as a member of the Alumni Career Network. In this capacity you can choose to discuss the nature of your profession with students or facilitate contact between your employer and the Cooperative Education Program.

To become part of the Alumni Career Network, please complete the card panels and return postage paid to the Career Coordinating Group. All information is confidential. If you have any questions, please call Helen White at (415) 881-3761.