

CALTECH NEWS

PUBLISHED FOR ALUMNI AND FRIENDS OF THE CALIFORNIA INSTITUTE OF TECHNOLOGY

The alumni stake in Caltech excellence

"As alumni we all have a stake in assuring that Caltech will continue to epitomize the kind of excellence that it has in the past," Stanley R. Rawn, Jr., BS '52, MS '53, said in his dinner address at the Alumni Leadership Conference. A Caltech Trustee and president of Marline Resources Co., Inc., Rawn emphasized the influence of the Institute on the lives of all its graduates.

"We learned here how to think in a fundamental way, how to work, and how to analyze and solve problems," he said. "Caltech gave me a sense of direction when I was a student that has been with me ever since."



Stanley R. Rawn

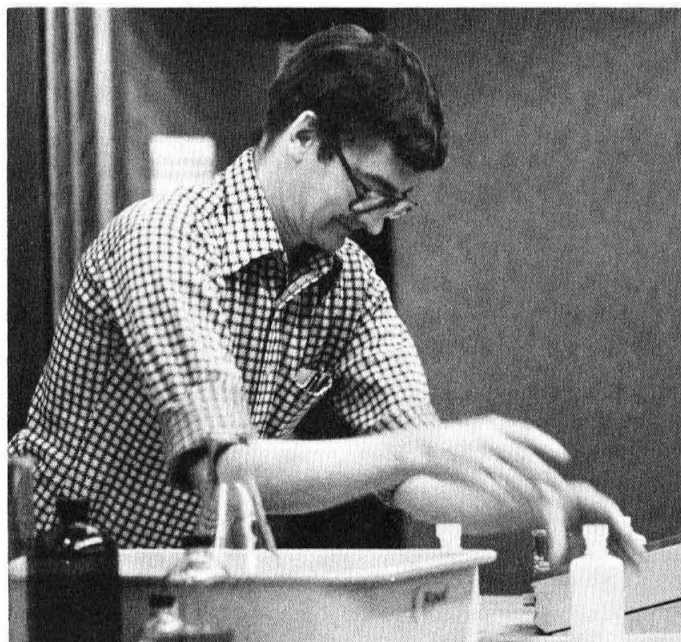
"The Institute's standards of excellence and its environment of academic intimacy have made it renowned in the world," he continued. "It has many competitors but no rivals that are superior. Last June, colleges and universities across the United States graduated one million seniors. Caltech graduated 168 — less than two one-hundredths of one percent of these. Thus, as Caltech alumni, we are members of a special fraternity with the benefits of a remarkable educational experience."

"For that experience we paid, through our tuition, less than one third of the cost. For this reason I feel a great sense of indebtedness to Caltech. I also believe in supporting it because of the importance to the human race of its fundamental scientific and engineering research. Besides, I've found that renewing my contacts with the Institute has been stimulating and rewarding."

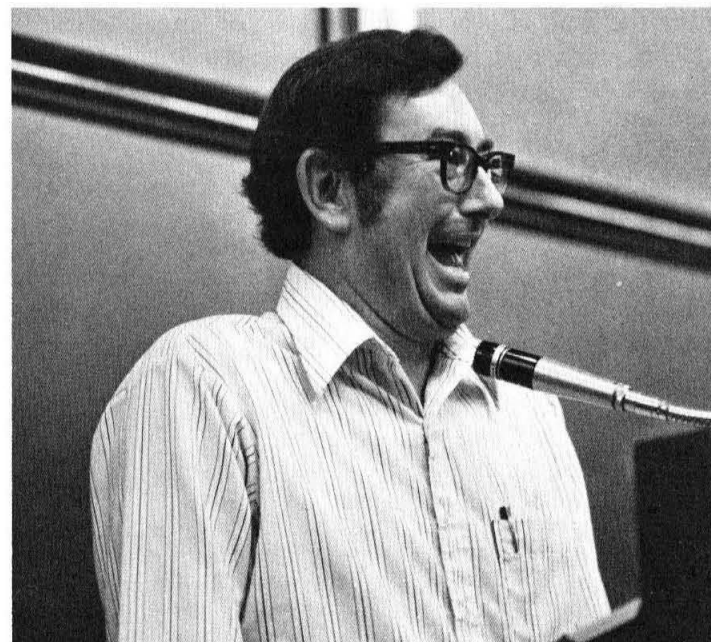
"The preeminence of Caltech has been maintained because of the leadership of its presidents, the continued performance of its faculty, the support of its Trustees, staff, and friends, and the growing support of its alumni. If its excellence is to be maintained, this increasing alumni support is vital."

In an award ceremony following

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George Rossman and Harry Gray demonstrate a catalytic reaction for alumni at the Leadership Conference.



Explosive alumni session

New Fund year begins with a bang

Alumni Fund area chairmen who took Chemistry 1 too early to enjoy one of Harry Gray's lively classroom demonstrations made up the deficiency at the Alumni Leadership Conference on campus during September. Appearing on the afternoon program of the orientation meeting, Gray and his straight man, Caltech Associate Professor of Mineralogy George Rossman, made sure that any alumni suffering from post-luncheon doldrums were awakened with a bang.

"I was planning to give a serious talk on research," Gray said, "but your program chairman suggested I

just be myself—that you might like something light to hang onto when you're out working in the trenches this year."

Gray is the chairman of the Institute's Division of Chemistry and Chemical Engineering and the William R. Kenan, Jr. Professor and professor of chemistry. The irrepressible chemist has been noted for his use of lively classroom presentations to keep his students interested. In one memorable performance he dressed as a horse.

Gray introduced Rossman to the audience as a "B prospect" — an alumnus who in Alumni Fund ter-

minology has been contributing under \$100 a year. As a Caltech graduate student, Rossman, PhD '71, was Gray's teaching assistant with responsibility for preparing the class demonstrations.

After showing slides of Rossman and himself in the classroom some years ago, dressed in leopard costumes, Gray demonstrated a "double-clock reaction" involving a solution that does nothing until a catalyst is added to it. He reminded the area chairmen that the Institute's colors are orange and white, while Rossman poured starch into a combination of mercuric chloride and sodium iodate.

Gray then led the alumni in a cheer—"Give me an orange! Give me a white!"—while the fluid, in a transparent container, obligingly changed colors right in time with the chant. However, the second color was black, not white. Gray promised to get it right next year.

Afterward Gray described his own research, which involves the creation of a compound that can convert the energy of sunlight directly into chemical fuel. Discovery of the compound—a complex molecule containing the metal rhodium—raises the possibility of converting sunlight into fuel more efficiently than through conversion of either solar-produced electricity or plant materials.

"It takes a super chemist to accomplish this," noted Gray as the projectionist flashed on the screen a slide of Gray in one of his classroom appearances as Superman.

Striking a serious note, Gray stressed the importance of the Alumni Fund to new research projects. "It's very difficult to get money from the federal government to start something new," he said. "The Alumni Fund provides the seed money that enables us to launch new programs."

In two final demonstrations, Gray

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For Braun Labs

\$1.5 million Irvine grant

Caltech has received a \$1.5 million grant from The James Irvine Foundation as part of a new research center devoted to expanded studies of cell biology and chemistry.

The James Irvine Laboratory will be located in the Braun Laboratories of Cell Biology and Chemistry. Over \$10 million in gifts and pledges have been received for the \$14.4 million research complex, and construction is scheduled to begin in 1979. Two endowed professorships of \$1 million each have also been pledged to the project.

Research in The Irvine Laboratory will focus on the structure of the cell surface, the nature of which scientists have only recently begun to understand. This knowledge is essential to an understanding of such cell disorders as genetic diseases, degenerative diseases, and cancer. Because cancer cells can be distinguished from normal cells by the unique molecules on their surfaces, considerable advances in cancer detection and treatment could be made through increased understanding of

cell surface chemistry. Scientists seek further knowledge of cell division because one of the most fundamental problems in cancer research is why cancer cells proliferate uncontrollably.

As part of the expanded program in cell biology and chemistry, a new effort in immunology will be initiated in the Braun Laboratories. Studies in immunology are aimed at bridging the gap between basic biological research and applied medical research. This immunology program will be headed by Leroy Hood, BS '60, PhD '68, the Ethel Wilson Bowles and Robert Bowles Professor of Biology, who holds both MD and PhD degrees. He and the other scientists who will conduct research in the new building will have strong backgrounds in both fundamental and medical research.

The Braun Laboratories will be constructed at the northwest corner of the Caltech campus. The structure will contain 56,000 square feet of laboratory and office space, making it the largest biological research building on the campus.

Ra-Shalom symbolizes peace hopes

Planetary Scientist Eleanor Helin was contemplating a name for a new near-earth asteroid that she had discovered when the successful negotiations at the Camp David Mid-East Peace Conference were announced on nationwide television. The asteroid had initially been designated as 1978 RA, the two-letter code indicating the time of year of the find.

Helin noted that Ra is the Egyptian sun god, symbol of enlightenment and life, and she chose the name Ra-Shalom for her discovery, adding to the Egyptian symbol the traditional Hebrew expression for peace.

"This name is chosen to commemorate the Camp David Mid-East Peace Conference, during which this extraordinary body was found," read the official citation naming the object. "May it stand as a symbol of the universal hope for peace."

Helin found the asteroid on photographic plates taken on September 10 with the Hale Observatories' 18-inch Schmidt telescope on Palomar Mountain. It was discovered at its aphelion, or farthest point from the sun. The largest member so far of a new class of asteroids that possess orbits largely inside that of the earth, it is about two miles in diameter and was approximately 18 million miles from the earth when initially photographed. It takes nine months to circle the sun and has the smallest orbit of any asteroid ever discovered.

Helin emphasized that the importance of the asteroid is that it has been found in a region of space which earlier was thought to have been swept clean of such objects long ago.

She and Professor of Geology Eugene Shoemaker have been conducting a search for near-earth asteroids under a grant from NASA's Planetary Geology program. Including the latest find, they have thus far discovered five earth-crossing asteroids, one asteroid whose orbit approaches but does not cross that of the earth, and seven Mars-crossing asteroids. Caltech As-

tronomer Charles Kowal has five earth-crossing asteroid discoveries to his credit. A total of 26 earth-crossing asteroids, more than half of which have been found at Palomar Mountain, and 21 Amor asteroids (with orbits approaching that of the earth) are now known.



At a press conference with Caltech President Marvin Goldberger, Planetary Scientist Eleanor Helin describes the location of the newly discovered asteroid, Ra-Shalom.

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Helin said Ra-Shalom's discovery provides further evidence that there probably is a sizable population of near-earth asteroids, some of which

may eventually be practical sources of material for construction of solar power stations or other structures in space.

The asteroid also becomes a prime candidate for an unmanned space probe visit. Because it has so little mass, it would have virtually no gravitational field. Thus, very little energy would be required either to land on the object or to take off from it. An automated probe to an asteroid such as Ra-Shalom might return samples to earth with matter more primitive than anything found thus far on either the earth or the moon.

Ra-Shalom's color suggests that it is of carbonaceous composition, and may be related to a rare type of stony meteorite containing water, carbon, and other volatile substances.

Voters seek bargains at polls, students learn

Voters in midterm elections behave like busy consumers seeking a quick bargain in the marketplace, according to two graduate students in Caltech's Division of the Humanities and Social Sciences. As a result, say the students, the president's party traditionally loses seats in these "off-year" elections.

The students are political scientist Randall L. Calvert and economist R. Mark Isaac. They suggest that the average voter, who must pay a price in time and effort to get information about candidates and their positions, takes shortcuts in the evaluation process in order to get a "bargain." The voter finds it cheaper, in terms of time, to identify the congressional candidates of the president's party with the policy positions of the president rather than to research the candidate's own stands.

Meanwhile, the opposing candidates face no such disadvantage. They can choose a specific presidential stance that is unpopular in their district and identify themselves as opponents of this position. But the candidates of the president's party cannot easily extricate themselves from the president's positions.

Calvert and Isaac constructed their theory to explain historical data showing that the incumbent party candidates consistently suffer losses in Congress in the elections between presidential years — with the exception of 1934.

Some political scientists maintain that voters are influenced most strongly by social and psychological attachments to a party or a political figure, while others maintain that voters do make rational choices in selecting a candidate. The Caltech team agrees with the latter contention, but points out that these "rational" decisions are often based on relatively easy-to-obtain information on the president.

African connection

Victor Manzella, a Caltech senior who is conducting historical research with Professor of Geography Edwin S. Munger, asks the help of alumni in obtaining information about the late John C. Blick, a Throop Polytechnic alumnus and member of the first Throop football team that ever competed in intercollegiate sports. The team trounced USC and went on to an undefeated season, but that's not why Manzella is seeking information about Blick. The former student apparently took a year off from studies to help crush a large African uprising in Rhodesia, and Manzella wants to obtain anything Blick may have written about his adventures there.

Blick returned to Throop and eventually became a paleontologist, conducting research for the American Museum of Natural History. He died in 1960 at the age of 84 in Visalia, California. Any alumnus with information about him can contact Manzella through the Caltech Division of the Humanities and Social Sciences.

In student houses

Murals enliven refurbished rooms

There's a bright new outlook this fall for Caltech freshmen who live in the old houses. In Dabney, Ricketts, Blacker, and Fleming, 46 freshman rooms have fresh paint and new carpeting in a variety of coordinated colors (valley green, redwood, cocoa brown, and gold).

In addition, many of the 46 rooms have murals — large scale multicolored geometric designs — which are both the inspiration and the finished work of Caltech students who were on the house painting crews during the summer. Painter-artists Alan Loh, Tim Van Eck, Chris Lindblad, Jim Kendall, Dave Adams, and Meg Marshall drew up the designs, chose the colors, and applied art to the bulkheads. In two departures from the geometric designs, one room got a mural inspired by the cover of the *little t* (three palm trees and a moon), and another has a Japanese fish kite (see photo).

The brightening of the freshman rooms is just one of a series of student-house redecorating and renovation projects undertaken during the summer. New carpeting in the alleys and stairwells was installed in Blacker, Dabney, Ricketts, and Fleming, and Fleming got fresh alley paint (Ricketts and Blacker were painted last year and Dabney considered its alley graffiti too valuable to be obliterated).

Ricketts, Lloyd, Dabney, Page, and Ruddock got new or completely remodeled kitchens, and Fleming's kitchen remodeling will be complete this fall. The houses also were treated to roof and plumbing repairs.

The work on the houses is part of a three-year program drawn up by the administration, the Committee on Undergraduate Housing, and the students, to update and rehabilitate

the undergraduate residences. The committee was chaired by Ralph W. Kavanaugh, professor of physics. The redecorating, remodeling, and repairing will continue through the coming months under the direction of David W. Morrisroe, vice president for business and finance and treasurer; it is supervised by James W. Minges, director of business services.



Jim Kendall puts finishing touches on an oversized painting of a Japanese fish kite that adorns the wall of a newly refurbished student room.



Honored at the Alumni Leadership Conference for their work as area chairmen were, from left: Andrew Campbell, Richard Smyth, Donald Stewart, Jr., Don McFaddin, George Gleghorn, Vern Edwards, and David Hanna.

Alumni Fund awards

Continued from page 1

Rawn's address, Ed Foss, BS '32, national Alumni Fund chairman in 1977-78, announced that a Rookie-of-the-Year award was won by Dan Markoff, BS '50, area chairman from San Luis Obispo, for obtaining gifts from 64 percent of his alumni.

For the second year, Vern A. Edwards, BS '50, western Pasadena area chairman, received a Pro-of-the-Year Award for best participation in an area headed by an experienced chairman. Of the alumni in Edwards's area, 66 percent contributed.

Eleven other area chairmen were honored for receiving gifts from more than 50 percent of the alumni in their areas: George Gleghorn, Jr., MS '48, PhD '55, TRW employees, 63 percent; Dave Hanna, BS '52, Phoenix, 56 percent; Allan Goldberg, BS '57, MS '58, Laguna Beach, 55 percent; Eugene Rose, Jr., BS '47, MS '48, Louisiana, 55 percent; William Williamson, BS '48, MS '49, Eng '55,

the central San Fernando Valley, 53 percent.

Don McFaddin, BS '28, Alhambra-South Pasadena, 53 percent; Don Stewart, Jr., BS '47, Pomona-Claremont, 52 percent; Paul Dane, BS '34, Eng '41, Marin County, north coast, 52 percent; Andy Campbell, BS '46, San Marino, 51 percent; Dick Smyth, BS '51, Newport-Corona del Mar, 50 percent; Harry Moore, Jr., BS '48, Westchester County, New York, 50 percent.

Other area chairmen, recognized for raising more than \$20,000 in their areas, were: George Watt, BS '46, east Pasadena, \$60,345; Ray Richards, BS '40, the east San Fernando Valley, \$50,731; Gleghorn, \$48,311; Edwards, \$36,113; Dee Brouillette, BS '55, MS '56, San Diego, \$33,195; Smyth, \$31,790; Mort Holland, Ex '36, Connecticut, \$27,800; Goldberg, \$24,772; and Campbell, \$20,966.

Area Chairmen 1978-79 Alumni Fund

Alumni serving as area chairmen in their regions this year include: Forrest S. Allinder, Downtown Los Angeles; Paul L. Armstrong, Jr., Orinda-Moraga, California; Leon J. Bass, west San Fernando Valley; C. James Blom, Bakersfield, California; Robert D. Boche, Riverside-San Bernardino, California; Delano A. Brouillette, San Diego; Ross A. Buchanan, Anaheim-Fullerton, California; Richard Buck, North Carolina; Jonathan F. Callender, New Mexico; Andrew B. Campbell, San Marino; Don C. Campbell, North Peninsula-San Francisco (with Jerry Zagorites); Lee T. Carleton, Newport-Corona del Mar, California; Douglas R. Christman, Michigan; Dean N. Clay, Eastern Canada; Frank B. Clendenen, Sacramento, California.

Spicer V. Conant, Northern New Jersey; Carl P. Constanten, Torrance, California; Duane H. Cooper, Champaign/Urbana, Illinois; Sheldon C. Crane, Hawaii; Harold B. Crockett, La Canada; Christopher Diamantoukos, Manhattan; Joseph A. Dobrowolski, Altadena; Bruce R. Doe, Colorado; William A. Drew, Indiana; Stanley A. Dunn, Wisconsin; Vern A. Edwards, western Pasadena; Ronald G. Findlay, South Peninsula — San Jose; Frank A. Fleck, eastern Pasadena; Donald F. Folland, Utah; Gerald W. Freeman, Santa Monica-Malibu, California.

Melbourne F. Giberson, eastern Pennsylvania, Delaware, and southern New Jersey; George J. Gleghorn, Jr., TRW employees; Allan M. Goldberg, Laguna Beach, California; Thomas P. Gordon, western Pennsylvania; Oran A. Graybeal, Dallas, Texas; Raimo J. Hakkinen, Missouri-southern Illinois; Steven Hall, Connecticut; David L. Hanna, Phoenix, Arizona; Thor P. Hanson, Houston, Texas; Paul B. Harris, Oklahoma; William H. Hillemann, UCLA; J. Roscoe Howell, Long Beach, California; Peter A. Howell, Minnesota; C. Warren Hunt, Canada.

Arne Kalm, Arcadia-Sierra Madre, Califor-

nia; Paul A. Levin, Redondo Beach-Marina del Rey, California; Daniel Markoff, San Luis Obispo, California; Keith B. Martin, Santa Barbara, California; Don E. McFaddin, Alhambra-South Pasadena, California; David B. McCarroll, El Monte-Covina, California; Richard G. Merritt, Washington (with Frank A. Woodward); Harry J. Moore, Jr., Westchester County, New York; Ira D. Moskatel, Beverly Hills; Albert Mueller, Tucson, Arizona.

Philip M. Neches, Brentwood, California; John D. Norgard, Georgia; Edward S. Peer, Downey-Whittier, California; Joseph E. Pendergast, Jr., Long Island, New York; Dale Powers, Upstate New York; George Preston, Stanford-Palo Alto, California; Eldon B. Priestley, Princeton, New Jersey; Raymond G. Richards, east San Fernando Valley; Eugene S. Rose, Jr., Louisiana.

Robert E. Schenter, Idaho, eastern Washington, and eastern Oregon; Ernest E. Sechler, Caltech faculty and staff; Josiah E. Smith, Washington, D.C.; Walter A. Specht, Jr., Los Altos, California; William Spooner Cincinnati (with Gary Walla); Donald Stewart, Jr., Pomona-Claremont, California; Douglas C. Strain, Oregon; Robert A. Stroud, Ventura-Thousand Oaks, California.

Tom V. Tarbet, Marin County, California; Pin Tong, Massachusetts (with Chauncey Watt, Jr.); Ernest Wade, Palos Verdes, California; Gary Walla, Cincinnati (with William Spooner); Chauncey W. Watt, Jr., Massachusetts; Theodore Webb, Jr., Fort Worth, Texas; Gordon B. Weir, Hollywood; William M. Whitney, JPL and Caltech graduate students; William J. Williamson, central San Fernando Valley; David Witwer, Chicago; Ray Wong, Oakland-Berkeley, California; Frank A. Woodward, Washington (with Richard Merritt); Ernest B. Wright, Florida; James and Susan Wu, Tennessee-Alabama; Jerry Zagorites, North Peninsula, San Francisco.

Explosive alumni session

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admonished the area chairmen: "You're the catalysts for the Alumni Fund. You have to catalyze the alumni to want to give." First Rossman exploded a mixture of hydrogen and oxygen by using a catalyst, causing an ear-splitting bang that reverberated through the auditorium. Then Rossman and Gray did the famous Caltech Chemiluminescent clock, which culminated in a brilliant flash of light as the flask exploded in Rossman's hand!

"If you can achieve this kind of result when you contact alumni," Gray concluded, "you'll make your goal without any problems."

In a luncheon talk, David W. Morrisroe, Caltech's vice president for business and finance and treasurer, told alumni that the Institute has reduced the portion of its budget allocated for support services by 20 percent since 1970. "This is how we've coped with inflation and avoided stagnation in our academic programs," he said. He stressed that one of the Alumni Fund's most critical functions is to provide "start-up funds" for the research of new faculty members whose work is not yet well known.

In concluding, Morrisroe warned chairmen about pitfalls of their roles by quoting from Mark Twain: "Friendship is one of our time-honored traditions—if you don't ask for money."

During the morning session, area chairmen heard Kerry Sieh, assistant professor of geology, and David Van Essen, assistant professor of biology, described their research and the role the Alumni Fund plays in its support. Caltech sophomore Alan Kamei and senior Marc Wold talked about student life at the Institute.

Alumni laughed appreciatively when Wold commented that "I came to Caltech to play football." Wold explained that, as a high school student, he was trying to decide whether to accept admission to Caltech, Stanford, or MIT when he received a letter from Caltech football coach Tom Gutman inviting him to play on the team.

"I wanted to play football and I realized I could never play at Stanford or MIT," he said. "One of the great things about Caltech is how easy it is to get involved in activities here because of the small size of the student body. It's also easy to get involved in research. When I was a freshman, I was asked to work in a research lab over the summer and this past summer I ran my own research project."

Thanking alumni for their support, he concluded, "You're making it possible for people like me to have a fantastic educational experience."

And with that thought in mind, the area chairmen prepared to begin their work.

Robert Daugherty dies at 92

Robert L. Daugherty, 92, professor of mechanical and hydraulic engineering, emeritus, died during August. Daugherty joined the Caltech faculty in 1919 and retired in 1956 at the age of 70, but his retirement was short lived. A man of great energy, he promptly accepted an appointment to the Los Angeles County Air Pollution Control Hearing Board and served 16 years. In this demanding position he met with the board almost daily to hear appeals for smog regulation variances.

Throughout his career he was a consulting engineer for many business and industrial firms, work that he continued after retiring from Caltech. Upon turning 90, he remarked to a colleague that he had not yet begun to draw on his Caltech retirement annuity because of the pace of his ongoing work. He continued to be active in the Caltech community and maintained ties with many former students through the alumni activities that he frequently attended. He arrived early at Alumni Seminar Day to welcome former students as they registered.

Daugherty was a co-author of the book, *Fluid Mechanics*, a standard text in its field for more than 40 years, and he helped to develop pumps for the Colorado River aqueduct and for the Grand Coulee project on the Columbia River. He was a fellow of the American Society of Mechanical Engineers and a member of the American Society for Engineering Education. He served on the Pasadena Board of City Directors from 1927-1931 and he was mayor during the last two years.

Before joining the Caltech faculty, Daugherty had been professor of hydraulic engineering at Rensselaer Polytechnic Institute and assistant professor of hydraulics at Cornell University. Born in Indianapolis, Indiana, in 1885, he received his AB and ME degrees from Stanford University. He is survived by his wife, Marguerite Daugherty.

Robert C. Brumfield, BS '40, MS '41, PhD '43, telegraphed the Institute following Daugherty's death: "Professor Robert L. Daugherty has passed on to his reward after a most distinguished career in teaching, writing, and leadership in the engineering profession. He is a man with 1,000 sons, among them some of the most outstanding engineers in their generations. I extend my condolences to Marguerite and the others of you who have suffered a great loss. I will make arrangements to establish a memorial to Professor Daugherty." Persons wishing to contribute to the memorial fund may do so through the Alumni Fund Office.

ALUMNI ACTIVITIES

January 1

Rose Parade Special. 7:30-9:30 a.m., continental breakfast in the Athenaeum; 9-11:15 a.m., walk to Colorado Boulevard and watch the 90th Annual Tournament of Roses from reserved grandstand seats; 12 noon, buffet lunch in the Athenaeum. For those with tickets to the game, a box lunch and bus transportation to the Rose Bowl will be provided.

PERSONALS

1925

ROBERT H. DALTON, MS '26, PhD '28, was recently presented a certificate commemorating his 50 years of involvement in the American Chemical Society, by the Corning Section of the ACS. Dalton was associate director of chemical research when he retired in 1967.

1938

STANLEY T. WOLFBERG received the Fred C. Crane Distinguished Service Award at the American Institute of Industrial Engineers' 29th Annual Conference in Toronto, Canada. Wolfberg is administrative officer of Caltech's Division of Engineering and Applied Science. Since 1976 he has been AIIE's member representative to the California Legislative Council for Professional Engineers and he also is AIIE's national director for professional registration.

1949

KEITH D. KOHNEN has been named manager of air separation machinery applications at Air Products and Chemicals, Inc., Allentown, Pennsylvania. He lives in Emmaus, Pennsylvania.

1950

THOMAS J. CONNOLLY, PhD '50, is the author of a book, *Foundations of Nuclear Engineering*, published by John Wiley & Sons. Connolly is professor and associate chairman of mechanical engineering at Stanford University.

1952

GEORGE L. ELLMAN, PhD, received the Chancellor's Award, a certificate and gift of \$500, for work in Marin County on ecology and for aiding the elderly. Ellman is associate professor of biochemistry and psychiatry, and pharmacological research associate at UC San Francisco. He has been Tiburon city councilman as well as mayor, and a member of the Tiburon Parks and Recreation Commission and of People for Parks and Open Space.

STANLEY GRONER has been named executive vice president-administration of AMF Incorporated. Groner has been corporate vice president, group services, for AMF since 1971. In his new position, he will be responsible for personnel and industrial relations, management information systems, engineering and research, and group services. He lives in Westport, Connecticut.

WILLIAM H. WYATT, MS, has retired. From his home in Minneola, Kansas, he writes: "My activities are to continue to serve society through helping senior citizens. At the present my wife and I are driving a minibus for our older people to receive their meals. We plan to visit Caltech in fall of 1979."

1954

HOWARD L. SARGENT, JR., MS, has written *Fishbowl Management: a Participative Approach to Systematic Management*. The book discusses four key topics in business and public administration: participative management, decentralization, performance appraisal, and the use of objectives. Sargent is a management consultant in Los Angeles.

1957

GILES R. COKELET, MS '58, formerly professor of chemical engineering at Montana State University, has joined the University of Rochester faculty as professor of radiation biology and biophysics and of chemical engineering. He and his family live in Penfield, New York.

1964

BRUCE J. ABORN, MS, recently completed his PhD in mathematics at Ohio University. He lives in Billerica, Massachusetts, with his wife, Mary, and their three children. Aborn is assistant professor of mathematics at Bentley College, Waltham, Massachusetts. He sends regards to his friends in the class of 1964.

1968

RICHARD W. BILD writes, "My wife and I lived in Heidelberg, West Germany, for one and a half years while I was a postdoc at the Max-Planck-Institut für Kernphysik. We then spent eight months at the Lunar and Planetary Laboratory, University of Arizona, before moving to Albuquerque in April 1978, where I joined the staff of Sandia Laboratories."

1969

MARTIN DOWD says, "I am about to receive a PhD in computer science from the University of Toronto and will be joining the faculty at Rutgers University next year. My wife of six years, Patricia, has just given birth to twins, Jennifer and Andrew."

KENNETH K. H. YOUNG, PhD '72, is a lecturer in physics at The Chinese University of Hong Kong where he is continuing his research in high energy physics and the physics of materials. He is a candidate for a post-doctoral award under the Lingnan Fellowship Program for Faculty Development at CUHK. There he lectures primarily in Cantonese while depending largely on materials published in English.

1970

LEONARD DOBERNE writes from Seattle, Washington, "The fellow who bought my house in Seattle turns out to be another Caltech alumnus, BOB HOWENSTEIN, BS '64. I have finished my medical residency at Virginia Mason Hospital. Before I start a fellowship in endocrinology at Stanford next summer, I am taking a year of intermittent work in general practice, travel, relaxation, and indulgence. I am sure this year will pass all too quickly. At Stanford, I will be involved with diabetes research as well as general endocrinology. Best wishes."

RICHARD W. HYMAN, PhD, was named associate professor of microbiology at The Pennsylvania State University College of Medicine at The Milton S. Hershey Medical Center, effective July 1.

JAMES W. TOEVS, PhD, and LOIS A. SCHLOEMER TOEVS, PhD, are living in Holland, Michigan, with their two daughters, Kim (9) and Wendy (7). Lois is an M.D. in full-time medical practice who also teaches medical students, house officers, and nursing personnel. Jim continues as professor of physics at Hope College with research on the Van de Graaff accelerator in astrophysics. He also develops microcomputers. Lois writes, "We long to see everyone in warm California again. We are becoming true believers in the next ice age approaching. Last week camping it was in the 30s each of our three days and today it is a warm 55°. Hardly seems fair!"

1971

ROGER J. JONES received his PhD in biology from Harvard in November 1977 and is now on a post-doctoral grant, doing research at the Regional Primate Research Center, University of Washington, Seattle.

CAPT. TERRENCE J. O'NEIL says, "It gives me great pleasure to announce that on 3 June 1978 I was married to Susan E. Pond of Dorchester, Massachusetts. The marriage took place at Randolph Air Force Base in San Antonio, Texas. After a camping vacation in Arizona, Utah, and Colorado, we have returned to our home at 5335 N.W. Loop 410, Apt. 114, San Antonio, Texas 78229. I will continue to work at the Wilford Hall USAF Medical Center [where he is a resident in internal medicine], and Susan, who is an RN, will continue her education."

LARRY A. WESTERMAN writes, "I'm entering Syracuse University in September 1978 in mechanical engineering, with a university fellowship. I plan to get an MS, then enter a doctoral program in sensory science. Little Summerlea was born in 1976 while we were in Samoa, and she'll be going to nursery school in the fall, so Deb can work toward a masters in family counseling."

1972

ROBERT A. BELL, MS, has joined the General Electric Research and Development Center, Schenectady, New York, as a chemist. He lives in Clifton Park, New York.

JAMES G. SMITH, MS, has been appointed vice president in charge of the newly created Atlanta office of Brown and Caldwell, Consulting Engineers. A veteran environmental engineer with the firm, he previously lived in Concord, Connecticut.

1973

ANTHONY BARCELLOS, a PhD candidate in mathematics at UC Davis, is one of 20 advanced-level science participants in the 1978 Mass Media Intern Program sponsored by the American Association for the Advancement of Science. This program, supported by the National Science Foundation, enables the interns to work as reporters, researchers, or production assistants with

newspapers, magazines, and radio and television stations across the country. It is designed to provide the interns with an understanding of the processes involved in communicating scientific and technical information. Barcellos began his internship at the *Albuquerque Journal* in Albuquerque, New Mexico, in June. A resident of Porterville, California, he plans to teach at the junior college level after his internship.

ROBERT J. GELLER, MS '75, PhD '77, is assistant professor of geophysics at Stanford University and is living in Saratoga, California.

1974

JAMES W. HUGG, JR. MS '74, received his PhD from Stanford University in June in nuclear physics. He will work as a research physicist at the Shell Development Co. in Houston.

HAYWOOD J. ROBINSON received his MD degree from the University of California, Irvine, in June. He is a resident in family practice at Martin Luther King, Jr., Memorial Hospital in Los Angeles.

RIK SMOODY, Ex, writes from Newberg, Oregon, "Last week I started working for Tektronix's Information Display Group as a software evaluator. I just finished my master's in comp-sci at UC Santa Barbara. It's great to be back here where the rivers usually contain water."

1975

JOHN F. LAND graduated from the USC Law Center on June 8, and will be associated with the firm of Spensley, Horn, Jubas, & Lubitz in Los Angeles.

1976

MARC C. CIMOLINO received his MS in chemistry from the University of California, San Diego, and is studying for his PhD.

1977

JAMES E. HOUSEWORTH, MS '78, married Pat Hofmann on August 11. They live in San Francisco where he works for the Bechtel Corporation.

OLIVIER MAUMY, MS '77, announces that he and his wife are the parents of a baby boy, born June 1978. The Maumys are living in Paris, France.

OBITUARIES

1909

E. L. BETTANNIER, Ex, on May 18, two days before his 94th birthday. The former general manager and chief engineer of the Pasadena, California, Water and Power Department was a life member and past president of the AIEE, now the IEEE.

1921

WYNNE B. MULLIN on April 24. He was retired and living in Laguna Hills, California, and is survived by his wife.

1932

KENNETH H. SWART, MS '33, on March 21. The Laguna Hills resident is survived by his wife, Jane, and two sons, Kerry and Ron. His professional life was centered on oil tool design. With Smith Tool since 1955, he was named president in 1960 and was later a corporate officer in Smith International. Contributions may be made to the Kenneth H. Swart Memorial Fund, California State University Long Beach.

1933

FRANCIS R. HUNTER, chairperson of the biological sciences department at University of the Pacific, Stockton, California, died August 7, 1978, after a long illness. Both he and his wife joined the biological sciences department as visiting professors in 1970. Dr. Hunter also taught in South America and at the University of Illinois, Florida State University, and the University of Oklahoma. He is survived by his wife and two children. The family requests that contributions be made to the Francis Hunter Memorial Fund for research in biological sciences at University of the Pacific.

1937

COL. CHARLES K. MOORE, RET., MS, on March 19. He was living in San Antonio, Texas.

1942

THOMAS G. CURTIS, MS '44, of heart failure on June 9 in Santa Monica. He is survived by his wife, Frances, and his son, Jay Dodge. He was employed by the Office of the State Architect as a senior engineer. Curtis was a member of the American Society of Civil Engineers and the Structural Engineers Association of California.

1950

THEODORE M. BOWEN in July of cancer. A physics instructor, he was division chairman at Cabrillo College in Aptos, California. He is survived by his wife.

FANSOME FOLLOW-UP

Fleming House's elusive resident, Alluvial Fansome, who was featured in the April Caltech News, continues to arouse memories in former Flems. John C. Russ, BS '62, MS '63, writes:

Since the recent revelations about Al Fansome surfaced in *Caltech News*, you probably have more letters than you need on the subject. I can add a little to his illustrious history.

He was already living in Fleming when I arrived in 1957, and the geological basis for his name was well known. Al was highly cultured. He subscribed to several magazines and at least one record club, but tended to ignore the bills that were sent. No recluse then, he took an active part in house affairs. During the 1960-61 year he ran against me for social chairman and won!

I think he also owned a car — a 1947 or '48 Nash that he bought from some other Fleming Trolls who were tired of getting parking tickets. We also found on one trip to Tijuana that his name was inscribed in the records of the police station there.

Meanwhile, a letter arrived from Peter C. Mayer, an economic consultant on Guam:

Due to worse than normal mail conditions, I just received the April and June issues of the *Caltech News*. I think I can shed some light on the birth of Alluvial O. Fansome. He was born much like Athena except that the head out of which he was born didn't belong to Zeus. It belonged to someone who I think had the surname of Casseres and upon occasion was called Crassass . . . His creator protested when I felt Al was Irish and actually named Alluvial O'Fansome. Since Casseres was of Costa Rican origin his protests were understandable. I believe Casseres originally graduated from Reed College in the humanities.

Ed. note: The Alumni Directory lists no Caltech graduate named Casseres. Perhaps other Flems can shed light on his identity?

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