

Caltech's Putnam team ranks third in national meet

The Caltech mathematics team placed third this year in the William Lowell Putnam Mathematics Competition, behind first-place Washington University and second-place UC Davis. Its team members included freshman Peter Shor, junior Karl Heuer, and 1977-78 ASCIT President Bert Wells, a senior. Team scores are determined by averaging members' individual ranks.

Caltech won \$300 for its third-place finish. The prize money traditionally is used to support prizes for undergraduate research in mathematics. Caltech won the Putnam competition exam five out of the previous six years.

Shor scored in the second group of five competitors (winners are not ranked individually but are identified as placing among the top five or top ten), and Heuer received an honorable mention. Senior Michael Chandler also received an honorable mention for his performance; he was not a member of the Caltech team.

A perfect score on the notoriously difficult test is 120. An indication of its severity is the score most commonly achieved (zero) and the mean score (two).

The next eighty years previewed

Twenty years ago three Caltech faculty members confronted a tremendous challenge: to lead a conference that would examine where the world seemed to be heading in terms of population resources, food, industrialization, and technological change. James Bonner, John Weir, and Harrison Brown called this examination "The Next Hundred Years."

Ten years later a group of Caltech faculty members subjected the initial forecast to scrutiny and termed the results "The Next Ninety Years." Now a group has taken another look via a third conference, "The Next Eighty Years," where previous predictions were evaluated and updated. For those who want to know where the world has been — and where it seems to be going — during the century that began in 1957, proceedings of the most recent conference are available through the Caltech book store at \$3.50.

Mail orders: Domestic shipping/handling charges — book rate, add \$1.00; first class rate, add \$2.50. California residents, add 6 percent sales tax. Foreign book rate, add \$1.00; air mail, add \$3.75. Make checks payable to the Caltech Bookstore, and send to Mail Code 1-51, Caltech, Pasadena, CA 91125.



Theodore B. Smith, MS '40, PhD '49, makes the first call in the annual telephone program to contact Caltech graduates throughout the country, seeking their support for the Alumni Fund. Smith has volunteered to make calls during each of the eight nights of the telephone program. Charles H. McDougall, Jr., BS '47, looks on. McDougall, an executive with Sears Roebuck and Company, has made the Sears telephone system available to the fund for the past five years for nationwide calls to alumni.

Fiorina's book wins award

Morris P. Fiorina, Caltech professor of political science, has received the *Washington Monthly's* Annual Political Book Award for his *Congress — Keystone of the Washington Establishment*, published last April.

In his prizewinning work, Fiorina examines the reasons why the electoral advantage of congressional incumbents has steadily increased dur-

ing the past two decades. He concludes that congressmen avoid controversy, concentrating on "safe and profitable" programs for their districts and cutting through federal red tape for constituents. Fiorina contends that congressmen have a stake in the spread of bureaucracy, although they publicly condemn it. He plans a two-year follow-up study.

ALUMNI ACTIVITIES

May 2

Philadelphia Chapter meeting. Edwin S. Munger, professor of geography, will speak on "Recent Explosions in Africa."

May 3

New York Chapter meeting. Cocktails, 6:30 p.m., dinner, 7:30 p.m., Tarrytown Hilton, 445 South Broadway, Tarrytown. Edwin S. Munger, professor of geography, will speak on "Recent Explosions in Africa." Cost: \$12 per person.

May 12

Class of 1938 reunion, the San Gabriel Country Club. Social hour, 6:30 p.m.; dinner, 7:30 p.m. Charles W. Clarke, secretary, heads a reunion committee with William F. Nash, Jr., Robert J. Barry, and Ralph W. Jones.

Class of 1953 reunion. Campus tours, 4 p.m.; social hour, 5:30 p.m.; dinner, 7 p.m., the Athenaeum. John D. Gee is planning activities that also include a luncheon in Dabney Garden and social hour in the Millikan Board Room on Saturday, May 13.

May 13

Alumni Seminar Day.

June 2

Class of 1928 reunion. Half Century Club luncheon, the Huntington-Sheraton Hotel, for all alumni who graduated 50 or more years ago. Social hour, 11:30 a.m., lunch, 12:30 p.m. Dinner for members of the class of 1928 at the home of James B. Black, executive director of the

Alumni Association, and Mrs. Black. W. Morton Jacobs and Guy L. Childberg head a planning committee.

Class of 1933 reunion. Campus tours, 4 p.m.; social hour, 5:30 p.m.; dinner, 7 p.m., the Athenaeum. Class secretary John Meskell is in charge.

Class of 1948 reunion. Class secretary Tom Tracy is planning a weekend-long celebration, featuring a dinner on June 3.

Class of 1958 reunion. Campus tours, 4 p.m.; social hour, 5:30 p.m.; dinner, 7 p.m., the Athenaeum. Class secretary Jonathan C. Tibbits, Jr., is in charge of arrangements.

June 10

Class of 1943 reunion. Campus tours, 4 p.m.; social hour, 5:30 p.m.; dinner, 7 p.m., the Athenaeum. Jesse B. Graner and Benjamin Nevill are in charge of arrangements.

Class of 1963 reunion. Plans will be announced later.

Class of 1968 reunion. Campus tours, 4 p.m.; social hour, 5:30 p.m.; dinner, 7 p.m., the Athenaeum. Gregory J. Brewer, class secretary, heads a planning committee.

Class of 1973 reunion, featuring a picnic in Tournament Park followed by swimming and athletic contests. Charles W. Almquist is in charge of arrangements.

Four on faculty named Sloan fellows

Four young Caltech faculty members, whose research ranges from mathematical theory to how the brain "sees," have been awarded fellowships for basic research by the Alfred P. Sloan Foundation.

The scientists receiving the two-year \$9,900 fellowships are Paul M. Bellan, assistant professor of applied physics; Alexander S. Kechris, associate professor of mathematics; David C. Van Essen, assistant professor of biology; and Ahmed H. Zewail, assistant professor of chemical physics.

The fellowships, according to the foundation, are awarded to young scientists on the basis of exceptional potential for creative contributions to scientific knowledge early in their careers.

Bellan works in plasma physics, a field devoted to the difficult goal of achieving controlled thermonuclear fusion. He is constructing a laboratory-sized version of one of the most promising devices for achieving fusion, the Tokamak. His version of the device will produce an almost steady-state plasma that will be particularly helpful to scientists in fundamental studies.

Kechris, a mathematical logician, has made fundamental contributions to the branch of logic known as "descriptive set theory." Van Essen is conducting research on the structure and function of the visual cortical areas of the brain. In these areas, information from the eyes is processed in ways that enable humans and animals to perceive and recognize objects.

Zewail has been studying ways to use super fast pulses of laser light to study chemical and physical processes. He is also investigating the physical effects of light on various molecules. Recently he developed an improved version of a planar solar concentrator — a device that collects sunlight and feeds it into silicon solar cells for conversion to electricity much more efficiently than lenses and other currently used collecting devices.

Borsook honored

Henry Borsook, Caltech professor of biochemistry, emeritus, and creator of a low-cost, high protein food supplement, Multi-Purpose Food (MPF), was honored this spring at a testimonial dinner by the Meals for Millions Foundation.

Borsook developed a soybean substance during World War II, designed to provide one-third of a day's full nutrition in a two-ounce cake. His formula triggered the establishment of "Meals for Millions."

Gnome Founders' Day dinner

Reprise: 1897 to the space age

Mrs. Robert A. Millikan always wore the same dress (maroon lace) to her student teas so she wouldn't embarrass the wives of graduate students who survived on tiny clothing budgets. The near-sighted Mrs. Albert Einstein, while staying at the Athenaeum, reassured herself by murmuring "This is the way" as she edged through the lobby and up the stairs to her room. Her husband, observing clouds of smoke billowing from the office of a professor in the chemistry division, was heard to mutter, "Acht! Chemists!"

And Caltech fielded a football team that never lost to UCLA and once held Stanford to a 6-6 deadlock until the final four minutes.

Anecdotes like these enrich any meeting of the Gnomes, for the Gnomes have few peers in appreciation of Caltech history and tradition. As members of the Institute's oldest social organization, they can recall a wealth of lively detail. But generally they are too busy devising projects to help students, and learning of exciting new directions in science, to spend much time dwelling in the past.

So it was when 73 Gnomes converged in the Athenaeum for their 81st Founders' Day dinner. There they honored student leaders, absorbed recommendations from the Long Range Planning Committee, and heard JPL Director Bruce Murray talk on "Where Next in Deep Space?" — even as they recalled a heritage that began in 1897, well before Throop Polytechnic Institute became Caltech.

Like the other fraternities on campus, the Gnomes ceased to exist as a secret society when the first student houses were completed in 1931. That year they moved out of their fraternity house on Holliston Avenue and into Ricketts House, and they stopped initiating members.

But in 1949, after an 18-year hiatus, the Gnomes decided their traditions deserved to continue. They began to elect a few students every year who were campus leaders as well as academic achievers. Caltech administrative leaders also have been elected on occasion. Thus the organization has continued as a vigorous group of alumni including many of Caltech's most enthusiastic and loyal supporters. Twenty-two of the sixty-five presidents of the Alumni Association have been Gnomes.

Gnome 1977-78 President, G. L. Fletcher, BS '56, MS '57, welcomed guests to the dinner and introduced Robert C. Perpall, BS '52, MS '56, who assumed the office for 1978-79. Among the new Gnomes who attended were James W. Mayer, master of student houses and professor of electrical engineering; and David W. Morrisroe, vice president for financial affairs and treasurer. U. S. Senator Harrison H. Schmitt, BS '57, also was elected to membership last year.

Matching tradition and heritage with flexibility and change, the Gnomes initiated their first women members three years ago. This innovation has triggered another first: Gnomes Marie Beall, BS '75, a medical student at UCLA, and Richard

Gruner, BS '75, a law student at USC, have become engaged.

Preceding this announcement was a more traditional one: Gnome Robley D. Evans, BS '28, MS '29, PhD '32, and Mrs. Evans would celebrate their 50th wedding anniversary with their Gnome friends in the Athe-



Rebecca Hartsfield, a senior majoring in geology, was one of several student leaders recognized by Gnomes at their annual Founders' Day dinner. With Becky are 1977-78 President G. L. Fletcher, left, and 1978-79 President Robert Perpall.

naeum after dinner.

Turning from love to plans for students, the Gnomes adopted a report from the Long Range Planning Committee presented by Caltech Y Director Walter W. Meader. The recommendations included having meetings with student leaders sev-

eral times a year and cosponsoring campus social events, volunteering to counsel with students about their career interests, expanding their scholarship fund to support a full tuition award each year, and buying a personalized license plate for the Gnome-donated bus: "GNOME."

Then the Gnomes left tradition, romance, and student life to hear Bruce Murray explore the question, "Where Next in Deep Space?" This was an issue suitably challenging for a group that's demonstrated for over 81 years its pride in Caltech's heritage and its zest for its future.

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Elusive Aluvial

Flems figure Fansome fools 'em

by Winifred Veronda

For a citizen of the world with gourmet tastes, Fleming House resident Aluvial O. Fansome is a modest, retiring fellow. If it were not for the parties he gives, the road rally he sponsors, the many magazines he reads, and the mail he receives from friends throughout the world, you would hardly know he exists.

Fansome moved into Fleming House about eight years ago. Virtually nobody realized he lived there until bills and magazines — *Gourmet*, *Hockey Illustrated*, *New Engineer*, *Swimming World*, *National Geographic*, *Science World* — arrived for him. Keenly interested in world affairs, he also subscribed to *Time*, *Newsweek*, and *U.S. News & World Report*. Soon he was receiving mail from friends throughout the United States, Europe, and Hong Kong, indicating that, although he is shy, he has made many friends.

Flems learned that Fansome loves a good party — even though he stays discreetly out of sight at social occasions. He began sponsoring two parties a year — one for Flems and an exchange with students in another house. Perpetually concerned about his housemates' well-being, he often brought girls from other campuses to parties so that dateless Techers could improve their social lives.

Fansome continued this benevolent practice even after he married Alice three years ago. The nuptials, in the typical Fansome style, were private, and not even publicized in the local society pages. Alice Fansome shuns attention even more than Al. She's known mainly through her own eclectic reading tastes: *The New Woman*, *Woman's Sports*, *Electronics*, *Psychology Today*, *Bon Appetit Magazine*, *Off Belay*.

Although he loves an intimate

party on campus, Fansome shows little interest in bigtime night life. When he won a free weekend in Las Vegas via a magazine sweepstakes contest, he passed up the opportunity and stayed at home.

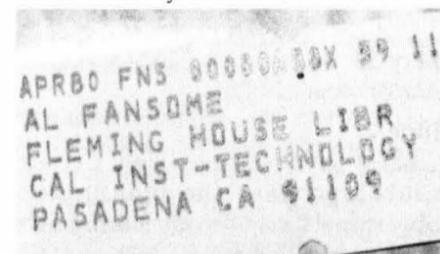
Even Fleming House treasurer Michael Machado and house librarian Lee Heiman, who have been drawn to Fansome through mutual financial interests, know little about him. They aren't even sure what his option is, although Heiman says the orderly way Fansome handles his business affairs suggests that he is majoring in economics, and that his fondness for engineering magazines hints at graduate work in this discipline.

Forever concerned about finding ways to relieve the academic pressures on his fellow students, he sponsored the Al Fansome Road Rally this year — a successful event that probably will become a tradition. "Al is always trying to find new outlets for us," Heiman said gratefully.

Soon Fansome will face a new challenge — especially trying for such a shy individual. He wants to apply for a social security number. Because of his reputation for handling his financial affairs in a responsible, orderly way, he obtained charge accounts and a bank account without difficulty. But to be issued a social security number, he will have

to produce his birth certificate.

Since Fansome was born eight years ago in the minds of Fleming House students who wanted a collective name to transact house business, he may find it difficult to prove his origin to the U.S. government. But then again, considering the ingenuity of his creators, he may discover that, if there's a Caltech student will, there's a way.



More elusive than Santa Claus on Christmas eve is Fleming House resident Aluvial O. Fansome. Straining to catch a glimpse of their house mate as he picks up his mail are (from top to bottom) Michael Machado, James McCuskey, and Joseph DiGiorgio. Fansome's address label appears on the magazine at left. (Photos by Floyd Clark).

On Seminar Day

See scientific research in action

For people who delight in seeing scientific research in action, Alumni Seminar Day on May 13 will offer bountiful opportunities. How brain waves are measured and analyzed, how earth tremors are monitored by the world's largest seismic array, and how waves travel through the ocean will be the focus of three exhibits. An art display, dixieland jazz, and a Glee Club concert are other features in Caltech's annual offering of research lectures by faculty members.

This year, Nobel Laureate Richard P. Feynman, the Richard Chace Tolman Professor of Theoretical Physics, will give the general session lecture on "Neutrinos."

The seismic array will be open from 12 p.m. to 1:45 p.m. on the second floor of the Seeley G. Mudd Building of Geophysics and Planetary Science. Here a computer system digitizes, detects, and stores information on magnetic tape about seismic activity, transmitted from 160 stations in southern California. Both the computer and seismic data will be shown.

The brain wave exhibit, which complements Derek H. Fender's research lecture, will be open in the basement of Jorgensen Laboratory to the first 200 people who register via their Seminar Day reply cards. Those who visit the Hydraulics Laboratory display in 040 Keck Laboratory will see how waves are propagated in the ocean and how they break over ocean shelves, how beaches are changed by waves, and how light fluids disperse through heavier ones. Attendance at this feature is also limited to 200; alumni and their families are asked to choose between it and the brain wave display.

Art exhibit

For art fanciers, Baxter Art Gallery, in room 75 of the Baxter Hall of the Humanities and Social Sciences, will be open from 12 p.m. to 5 p.m. Featured is a multi-media exhibit of the work of two contemporary artists, William Wegman and Robert Cumming.

The Seminar Day program of lectures on new developments in research and education will begin at 9:30 a.m. after registration at 8:30 a.m. in Dabney Lounge. Alumni and their guests will be served picnic lunches outside the Athenaeum at 12:30 and 1:15 p.m. with background music by the Caltech Dixieland Band.

After the talks, alumni can meet with friends in the Athenaeum for a social hour at 5:30 p.m. and dinner at 6:30 p.m. Guests at the dinner will be the men and women of the Caltech Glee Club, who will perform in their annual home concert at 8 p.m. in Beckman Auditorium.

As if all this isn't enough to fill the day for an alumnus, the Caltech bookstore, featuring books, mugs, T-shirts, posters, and other gifts, will be open, as will Millikan Library with its collection of technical materials and humanities and social sciences publications. Alumni whose sons and daughters are interested in entering Caltech will note a session for high school students at 4:30 p.m.

with Stirling Huntley, director of admissions. Huntley will discuss student life at the Institute, as well as admissions requirements and procedures.

Summaries of the Alumni Seminar Day lectures appear below.

Nitrogen Fixation: One of Nature's Most Important but Least Understood Processes

By J. E. BERCAW
ASSOCIATE PROFESSOR OF CHEMISTRY

An increasing worldwide demand for protein will be a major factor in the rising food crisis that confronts us. Reduced nitrogen is a necessary component in all protein; thus protein synthesis by plants depends on an available supply of ammonia — the crucial reduced nitrogen feedstock. But unfortunately, although N₂ is abundant in our atmosphere, most plants cannot use it directly and must be nourished by synthetic ammonia fertilizers instead. Bercaw will describe scientific studies of the enzymatic process involved in nitrogen fixation, and the attempts to develop synthetic routes to ammonia and other chemicals that contain reduced nitrogen.

The Search for Goodwin Wharton

By J. KENT CLARK
PROFESSOR OF ENGLISH

Historical biography can be an exercise in detective work. Clark's discussion will deal with some of the excitement, problems, frustrations, and joys involved in tracing the career of Goodwin Wharton — a 17th century politician, eccentric, alchemist, inventor, soldier, spiritualist, and Lord of the Admiralty.

Is All This Smog Necessary?

By FRANCIS H. CLAUSER
THE CLARK BLANCHARD MILLIKAN
PROFESSOR OF ENGINEERING

The chief source of power in our technological society, the combustion engine, is also the chief source of our smog. Empirical techniques now being used to reduce emissions have been unable to meet the strict standards called for in the Clean Air Act. Is an upward trend in smog therefore inevitable as population growth continues and we have more vehicles? We have obtained new insights into this question through recent research on the basic causes of combustion pollution. According to Clauser, the research has shown that pollution reductions of a thousand-fold are possible.

Our Lives Get Better: Progress in Artificial Heart Valves

By WILLIAM H. CORCORAN
VICE PRESIDENT FOR INSTITUTE RELATIONS
AND PROFESSOR OF CHEMICAL
ENGINEERING

With the advent of the heart-lung machine, bolder surgery has been tried. Especially since 1960, open-

heart surgery has been a major factor in correcting heart problems such as damaged heart valves or plugged arteries. Some 90,000 artificial heart valves are now being placed each year. Our ability to perform cardiac surgery improves day by day, as does the quality of prostheses available. All of this work has come about because of intense research by the medical profession and significant support from the engineers and scientists involved with physicians in the design of prosthetic systems. Corcoran will describe some details of this heart-valve work and will comment on future opportunities for progress.

Taking the Brain Apart — Gently

By DEREK H. FENDER
PROFESSOR OF BIOLOGY AND
APPLIED SCIENCE

Measurement and analysis of electroencephalograms (brain waves) are two of the ways that scientists can examine the electrical activity of the nerve cells in the human brain, and thus infer their function. Recording brain waves from many sites on the head permits researchers to locate active groups of nerve cells and to test their functions. Fender will describe research in this field.

Viking on Mars: The Search for Life

By NORMAN H. HOROWITZ
PROFESSOR AND CHAIRMAN OF THE
DIVISION OF BIOLOGY

Five instruments on the Viking landers searched for evidence of Martian life: cameras, the gas chromatograph-mass spectrometer that analyzed the soil for organic matter, and three instruments that performed metabolic measurements on the soil. The last three instruments obtained results that initially suggested the activity of microbes. However, later results favored a non-biological interpretation. But in spite of this disappointment, the Viking mission has been a dazzling engineering and scientific achievement, according to Horowitz, whose group designed one of the Viking instruments.

Shock Waves

By HANS W. LIEPMANN
THE CHARLES LEE POWELL PROFESSOR OF
FLUID MECHANICS AND
THERMODYNAMICS
DIRECTOR OF THE GRADUATE
AERONAUTICAL LABORATORIES
EXECUTIVE OFFICER FOR AERONAUTICS

Shock waves occur as sonic booms, as atomic blasts, as thunder in the earth's atmosphere, and as supernova explosions in space. They can be used for destruction or construction of materials; they can be nuisances or useful tools for investigating matter, including plasmas and liquid helium. Liepmann will present a brief overview of the physics of shock waves with particular attention to recent work involving liquid helium.

Reflections on the "Decline" of Science in the United States

By DANIEL J. KEVLES
ASSOCIATE PROFESSOR OF HISTORY

The fall in federal research and development funding since 1967 has provoked warnings that science in the United States is declining, but the pace of scientific advance in the country continues, seemingly undiminished, across a broad front. Are the warnings in any sense justified, and if not, why not? Kevles will suggest answers to these questions by looking at sources of quality in science, the structure of the American scientific community, and patterns in the distribution of research funding.

The Simple Economics of Water as Applied to the Colorado River

By JAMES P. QUIRK
PROFESSOR OF ECONOMICS

The Colorado River is the only source of surface water for much of the southwestern United States, and is a major water source for southern California municipal, industrial, and agricultural users. Quirk will discuss the legal institutions that govern the management and distribution of Colorado River water, how they evolved, how well they function from the point of view of economic efficiency, and how they can be improved.

Pre-historic Large Earthquakes of the San Andreas Fault in Southern California

By KERRY E. SIEH
ASSISTANT PROFESSOR OF GEOLOGY

Knowledge of the character and frequency of large pre-historic earthquakes in southern California will make possible more definite and reliable long-term forecasts of future quakes. Recent studies of an ancient swamp along the San Andreas fault have uncovered evidence of several large tremors within the past two thousand years. On the average, these large quakes occurred every 160 years, according to Sieh.

Listening with the Inner Ear

By GEORGE ZWEIG
PROFESSOR OF THEORETICAL PHYSICS

The energy of all the sounds we hear is converted into neural impulses within the inner ear. If we are to understand how the brain identifies these sounds and localizes them in space, we must know how the inner ear codes sound stimuli in patterns of neural impulses. Zweig will review our understanding of this coding process and will describe the major problems of inner ear function.

PERSONALS

1926

FRAY HARDWICK, (formerly Frey Hamburger), says he is looking for an interested publisher for articles he is writing that describe the properties, availability, and applications of the elements. He adds, "I am also promoting a unit of length, 2.9979 meters, tentatively called the Ernot, to take its place in an improved metric system of units. You undoubtedly recognize this length as a fraction of the speed of light. This unit is more appropriate for humans in the space age!" Hardwick lives in Orange, New Jersey.

1927

C. LEWIS GAZIN, MS '28, PhD '30, paleobiologist emeritus at the Smithsonian, was made an honorary life member of the Society of Vertebrate Paleontology.

RUSSELL E. THOMPSON writes, "I have a pretty good collection of color slides taken at the 50th anniversary dinner and luncheon of the Class of '27, if anyone is interested."

ARTHUS H. WARNER, PhD, is retired and living in Pasadena. He and Mrs. Warner will be celebrating their golden wedding anniversary on June 17, 1978.

1928

FRANK NOEL writes, "My wife and I made a 3-week tour of Russia, including 3 days and nights on the Trans-Siberian Railroad, in August 1977." He is retired and living in Carpinteria, California.

1933

MERRILL BERKLEY writes, "I continue ownership and management of two businesses, which are competitive with each other, and find time with Mrs. Berkley for two world-wide travel trips a year. I do not plan to retire from work."

PAUL F. HAWLEY, MS, PhD '37, has retired from his position as patent director with Pan American Petroleum Corporation in Tulsa, Oklahoma.

JOHN D. MENDENHALL, principal project engineer, retired on December 31 after more than 30 years with the Ralph M. Parsons Co.

WILLIAM W. MOORE, MS '34, founding partner of Dames & Moore, consultants in the environmental and applied earth sciences, was awarded the Golden Beaver for Engineering by the Beavers, a social organization of members of the construction industry, in January in Los Angeles.

MOSES B. WIDESS, MS '34, PhD '36, received the 1977 Kaufmann Gold Medal Award from the Society of Exploration Geophysicists for contributions to geophysical exploration. Retired from Amoca Production Company, Widess is currently a self-employed geophysical consultant in Houston.

1934

WILHELM S. EVERETT was recently honored as "Ventura County Engineer of the Year" during the annual meeting of all of the county's engineering organizations. Everett, who is a consulting engineer for Everett Associates of Ventura, California, holds more than 30 patents in vibration and noise control fields.

1936

PAUL J. SCHNEIDER writes from Oakland, California, "I'm retiring from my highly satisfactory practice of reconstructive surgery on January 30. I'm now a senior citizen — whatever that is!"

1940

GEORGE BARBER, a retired aerospace engineer living in Pacific Palisades, California, has been appointed to the hearing board of the South Coast Air Quality Management District. The board weighs appeals from industries that seek extensions on their timetables for reduction in the emission of air pollutants. Barber says, "An item of interest to me is that Professor Robert L. Daugherty, a full professor in 1937 when I was a freshman, was an engineering member of this board (the same job I now have) a few years ago. I know Professor Daugherty personally and see him occasionally. He came to Caltech in 1919. I was in his hydraulics class."

1941

LLOYD A. LEWIS, MS, retired as staff geologist after 37 years with Shell Oil Company. He is living in Midland, Texas.

1942

H. WILLIAM MENARD, JR., MS '47, has been nominated by President Carter to be Director of the U.S. Geological Survey. Secretary of the Interior Cecil Andrus said, "Dr. Menard is an internationally recognized scientist with extensive experience in marine, atmospheric, and solid earth sciences. He has been highly recommended by the National Academy of Sciences, (NAS), which conducted a nationwide search for candidates eligible to head the U.S. Geological Survey, and was my first choice for the position. His outstanding background qualifies him well to lead the Survey in an era of expanded scientific responsibility." A professor of geology at Scripps Institution of Oceanography in San Diego since 1955, Menard lives in La Jolla.



H. William Menard, Jr.

1943

DAVID M. MASON, MS '47, PhD '49, has been named a Fellow of the American Institute of Chemical Engineering in recognition of his contributions to chemical engineering education. Professor of chemical engineering at Stanford University, Mason lives in Los Altos. In 1966 he was a recipient of Caltech's first Alumni Distinguished Service Award.

1944

RICHARD E. KUHNS, a division engineer with the Los Angeles County Engineer's Department, received the 1977 Charles Walter Nichols Award for outstanding service in sanitation from the American Public Works Association.

FRED W. MORRIS was recently granted the honorary degree of Doctor of Science by the Capitol Institute of Technology. He is president and chief executive officer of Tele-Sciences Corporation, Washington, D.C. He lives in Bethesda, Maryland.

JAMES TUEDIO was recently appointed director for instructional computing at Pasadena City College, where he will be responsible for all aspects of computer-related instruction, including the Computer Resource Center.

1946

DONALD R. LINDSAY, Ex, was elected to the board of directors of the Geothermal Resources Council in March 1977. He lives in Houston.

EDWARD G. NEALE, president of Neale Advertising Associates in Los Angeles, writes that he will complete a three-year term as First Reader at the 38th Church of Christ, Scientist, in Encino in April.

EBERHARDT RECHTIN, PhD '50, elected president of The Aerospace Corporation in September 1977, is the recipient of the IEEE 1977 Alexander Graham Bell Award. He lives in Palos Verdes Estates, California.

1947

SPENCER R. BAEN, MS, PhD '50, was recently named acting director of the Center for Energy and Mineral Resources at Texas A&M University, College Station.

1948

STUART M. BUTLER became president of William Simpson Construction Company, Los Angeles, and C. Norman Peterson Co., Berkeley, effective January 1. The Simpson Company is a major commercial construction firm and the Peterson Company is active in the heavy industrial and sewage treatment fields in California. Both companies are members of the Dillingham Corporation of Honolulu.

1950

LEON J. BASS, MS '51, announces the birth of his first grandson, in Long Beach, California, on December 6. Bass is a project engineer with Spec. Purpose Tech. Corp., Van Nuys.

JAMES C. CONLY, PhD, is business development manager for Schering Laboratories Division of Schering-Plough Corporation,

Kenilworth, New Jersey. He is responsible for product and company acquisitions in the pharmaceutical business area. He was formerly manager of research technical planning for Schering-Plough.

1952

GERALD D. FASMAN, PhD, professor of biochemistry at Brandeis University, is editor of the *Handbook of Biochemistry and Molecular Biology*, third edition.

WILLIAM W. IRWIN, an engineer for Indulux, Inc., received a Silver Beaver award, the highest Scouting honor for adults, at a recent ceremony. Irwin, a resident of La Habra, California, has served 18 years as cubmaster and scoutmaster. He and his wife Dona have a daughter and four sons, all active in scouting.

1959

RICHARD D. DIETZ, professor of astronomy at the University of Northern Colorado in Greeley, writes "I became the first American ever to climb the highest mountain in the Soviet Union when I reached the summit of Peak Communism in the Pamirs in August 1977."

EMILIO VENEZIAN, MS, PhD '62, is vice president-research of the Insurance Services Office in New York City.

1963

DENNIS COUZIN of Evanston, Illinois, has been awarded a grant by the National Endowment for the Arts for research into motion picture optical printing. He solicits help from friends with lens MTF, film microdensity, IR absorption, or vibration measurement capabilities. His address is 322 Main Street.

1965

ROGER C. DAVISSON, MS '66, writes, "I am now a partner in the L.A.-based venture-capital firm of Brentwood Associates. Caltech alumni often play an important role in the type of high technology firms in which we invest." Davisson lives in Manhattan Beach.

1966

S. MICHAEL FERROZ, MS, practiced soil engineering in Los Angeles for nine years and transferred to Houston in 1975. He writes that in 1975 he also married his wife Rosie, and that they are expecting their second baby. He is employed as engineering specialist/engineering group supervisor of the geotechnical group for Bechtel's Houston area office.

DOUGLAS C. KUBLER and his wife Kathie announce the birth of a daughter, Kristina, born August 25. Kubler is a member of the professional staff with Informatics in Canoga Park, California. He and his family live in Westlake Village.

ALSTON C. LUNDGREN received his MD from the University of Minnesota in June 1977, and is now in family practice residency at the University of Minnesota-Methodist Hospital in St. Louis Park. He writes, "My wife Jean left IBM after eight years to begin medical school at the University of Minnesota last September."

1967

TSE-FOU ZIEN, PhD, received the 1977 Annual Award of the Washington Academy of Sciences, given for scientific achievements in the engineering sciences. Honored for his significant contributions to fluid mechanics and heat transfer, Zien was nominated for the award by his employer of 8 years, the Naval Surface Weapons Center in Silver Spring, Maryland, where he is a research aerospace engineer.

1968

LESLIE G. FISHBONE writes, "Leslie Weitzner and I married on October 16 in Elizabeth, New Jersey, and now live on Long Island. I'm working in the National Center for the Analysis of Energy Systems at Brookhaven National Laboratory."

THOMAS P. SANTORO, MS, PhD '77, is chief of the Computer Applications Division, Naval Submarine Medical Research Lab, Groton, Connecticut. He is marrying Elizabeth McFarland of Westerly, Rhode Island, on April 22.

1969

WILLIAM L. MARTIN III, MS '70, has been named vice president and general manager of Coastcom, of Concord, California. Coastcom manufactures high technology communica-

tions electronics, and their specialized multiplex systems are used internationally for the transmission of audio, video, and data information.

1970

UMA DALAL CHOWDHRY, MS, graduated from MIT with a PhD in materials science in February 1976. She is now a research scientist at DuPont's central research division in Wilmington, Delaware.

1971

DAVID N. SCHRAMM, PhD, professor of physics and of astronomy and astrophysics at The University of Chicago, has been awarded the 1978 Helen B. Warner Prize of the American Astronomical Society. The Warner Prize is given annually to an outstanding American astronomer under the age of 35 who has made significant contributions during the last five years. Schramm's citation reads, "For his incisive and energetic application of nuclear physics to a wide range of astrophysical problems encompassing the entire scale of astronomy from the elemental composition of the solar system to the age and future of the universe." The prize will be awarded at the annual meeting of the society in January 1979.

DUNCAN P. TAYLOR received his PhD in biochemistry from Oregon State University in November, and is now a research fellow at the National Institute of Mental Health. "My wife and I are the proud parents of a daughter, born April 1977," he writes.

1974

JAMES W. BROWN, PhD, announces the birth of a daughter, Teresa, on September 23 in Pasadena. Brown is technical group leader at JPL.

JAMES STANA, MS, was married on June 4, 1977, to Eileen Brunner of Pittsburgh. They live in Rochester, New York, where Stana was a member of the design/development team for the recently announced Xerox 3400 console copier.

Ascending Millikan

A February Caltech News feature, "It's all Uphill for Caltech Climbers," states that Tom Weaver, BS '74, was the first and only person to scale Millikan Library. Roger Linfield, who is working toward a PhD in astronomy, challenges this statement in the letter below. We are happy to clarify the matter:

You mention in your article that Millikan Library has only been climbed once. This is not correct. On July 13, 1977, I climbed the chimney on the northwest side of the building without a rope or other gear. The ascent took place at about 11 a.m. and there were no witnesses, but the following people will attest that they are convinced that I did it: Will Grossman, Howard Yee, Don Schneider, John Hoessel, Ellen Williams, Niel Gehrels (all graduate students) and Dave Sholle (MS '77). Sholle was with me when I did some exploratory climbing there the night before. [Ed. note: Sholle confirms Linfield's account of the climb, and attests to his climbing prowess.]

The face to the west of that chimney was climbed by direct aid (using lots of gear) on November 2, 1976, by Steve Trabert and Jim Walseth, both undergraduates. Other building climbs that I believe I was the first person to complete are: the Millikan trustees' room via the flared chimney on the north side and the face of Robinson above the east entrance. The low roof under the connection between Guggenheim and Firestone was climbed with direct aid by Jim Walseth, Steve Trabert, Bill Behen, and Dan Glover. I hope this sets the record straight.