

CALTECH NEWS

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Math champions:

Caltech wins Putnam again

For the third straight year, Caltech students won the William Lowell Putnam Mathematics Competition—becoming the second school in the 34 years of competition history to do so. Harvard is the other three-time winner, with victories in 1955-57.

Gary A. Lorden, associate professor of mathematics who supervises Caltech's Putnam participants, confidently brought his team to this year's competition, because two members had placed among the top six contenders last year, and the third member had placed tenth.

The winning team was composed of seniors Arthur Rubin and Michael Yoder—both on the team last year—and sophomore James B. Shearer. The three mathematicians won a team prize of \$500 and, in addition, each winner received \$100.

Seventeen-year-old Rubin received a \$250 prize for winning the competition.

He now has been an individual winner for four consecutive years, two years while a student at Purdue University and two while at Caltech—a record that is virtually unparalleled in Putnam history. This year he scored 106 out of a possible 120 points.

Freshman Christopher Henley won \$100 for placing 6th; Shearer placed 12th. Yoder and sophomores Stephen Tappel and Franklin Liang received honorable mention for scoring among the top 40.

Lorden, who was a Putnam contestant himself as a Caltech undergraduate, believes that this test was easier than last year's—but still an extremely taxing way to spend a day. The test, consisting of 12 problems, stretches from 9 a.m. to 5 p.m., with a two-hour break for lunch.

Lorden explained that the problems require more in the way of perseverance, ingenuity, and aggressive, agile thinking than of memorized knowledge. They also

require the capacity to work fast, with no opportunity to let the problem simmer on the back burner for awhile—and the courage to keep going when the outcome seems dismal.

Michael Yoder, who has been a member of the Caltech team for the past three years, said the best way to prepare is to get plenty of sleep the night before.

"There's absolutely no use to try to study for the test," he emphasized. "You'll simply cloud your mind—and you'll need it to be relaxed and limber."

Yoder can't remember what he has done on any of the evenings after a Putnam, although he thinks he may have gone to a movie. "My mind was too tired to retain that kind of memory," he said.

Lorden said that Caltech has never placed emphasis on coaching its participants for the Putnam. "Some schools bring in their best mathematicians to coach their teams," he said. "We've simply shown the students some problems from previous tests, and that's about all. We really don't feel there is a great deal that can be done to prepare a student; essentially the outcome will depend on his own abilities."

Lorden will have one returning "letterman" for his team next year, James B. Shearer, and a second member, freshman Christopher Henley. Although less confident of next year's victory, Lorden still believes Caltech will have an excellent chance to win.

"I'd certainly like to win again next year; then we would have the distinction of becoming the first team to win four times in a row," he said.

More than 2,000 students from 362 colleges and universities in the United States and Canada took part in the written examination. Besides the team members, 33 Caltech students also entered the competition.

The \$500 prize received by Caltech for the team's victory is placed in a fund to finance prizes for excellence in research projects by undergraduate mathematicians.



Housner: first Braun Professor

A new endowed chair has been established at Caltech—the Carl F Braun Professorship of Engineering at the California Institute of Technology. George W. Housner, MS '34, PhD '41, distinguished for his work in earthquake engineering, has been chosen as the chair's first occupant.

The endowed professorship is made possible by gifts from the Braun family through the Carl F Braun Trust Estate and C F Braun & Co—supporters of a wide variety of Caltech activities during almost half a century.

A member of the Caltech faculty since 1945, Housner is internationally known as an expert on the effects of earthquakes on structures. He has made important contributions to the design of earthquake-resistant buildings, and to the development of instruments and techniques for measuring the impact of earthquakes on structures.

He is a member of the U.S. Atomic Energy Commission's Advisory Panel on Safety against Groundshock, chairman of the National Academy of Engineering Committee on Earthquake Engineering Research, and a principal investigator in the National Science Foundation's earthquake engineering research program.

Among the projects for which he has designed the earthquake engineering are the San Francisco Bay Rapid Transit System, a suspension bridge over Portugal's Tagus River, high-rise buildings in Los Angeles, and nuclear power generators for the Japan Atomic Power Company.

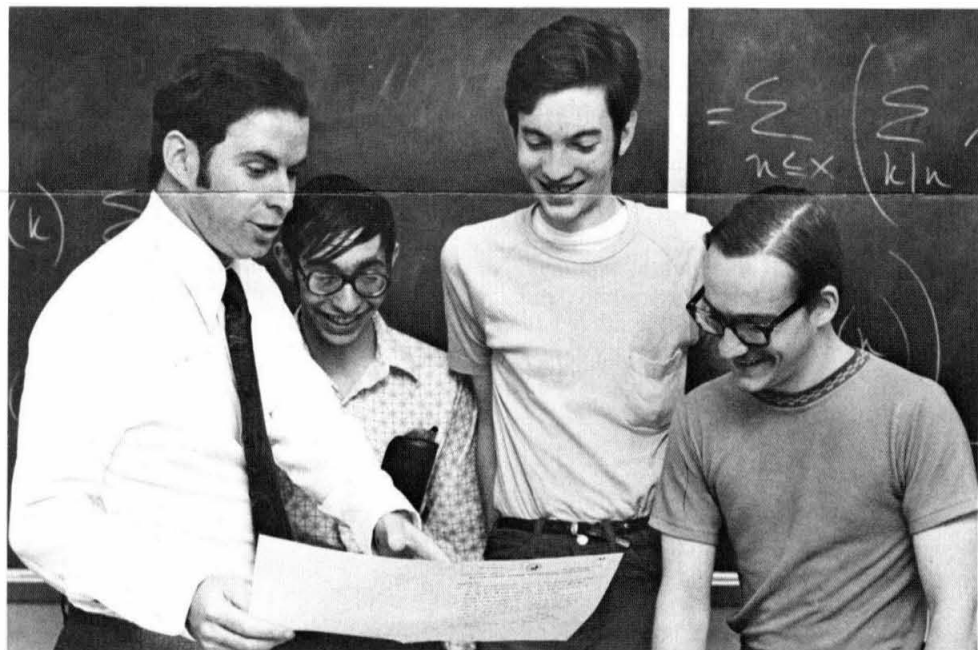
The new professorship is named for the late Carl F Braun, founder-president of C F Braun & Co, internationally known engineering and design firm, with headquarters in Alhambra.

Braun was a Trustee of Caltech and a charter member of The Associates, a group formed in 1926 to help support the Institute. He was a director of that organization from 1937 until his death in 1954. His son, John G Braun, is now a Caltech Trustee.

The Carl F Braun Trust Estate, established in 1955 to help educational and other organizations in California, and the Braun Company have made many contributions to Caltech. These range from their gift of Braun House, a graduate residence hall, to the rehabilitation of Caltech's Kerckhoff Marine Laboratory at Corona del Mar.

The gifts making possible the new endowed chair represent a contribution to Caltech's five-year development campaign, Caltech at the leading edge . . .

Victorious Putnam team discusses results of competition: From left—Gary A. Lorden, associate professor of mathematics and supervisor of Caltech Putnam participants; Arthur Rubin, James B. Shearer, and Michael Yoder.



From the Ford Motor Company:

Funds to focus on energy problems

Caltech has received a grant of \$500,000 from the Ford Motor Company to initiate a series of comprehensive research attacks on critical energy problems.

According to preliminary plans, scientists and engineers from three of Caltech's six divisions will be involved: Engineering and Applied Science, Chemistry and Chemical Engineering, and Geological and Planetary Sciences.

Managing the overall program will be an energy steering committee of Caltech administrators and faculty. An energy advisory committee will also be established, composed of representatives from Caltech's Board of Trustees; the petroleum, transportation, and electrical utility industries; the Federal Government; and various nonprofit organizations.

In commenting on the gift, President Harold Brown said, "Caltech, which has been productively working on energy-related problems for some time, is grateful to the Ford Motor Company for enabling us to launch substantial research efforts to help resolve pressing energy problems.

"We will now be able to marshal a wide variety of expertise to focus on carefully selected problems. Furthermore, we propose that the efforts so begun will

continue and expand with help from other sources.

"Caltech's talented faculty offers proven competence, experience and initiative in the energy sector, including the gasification and liquefaction of coal, plasma research applied to fusion, the

disposal of radioactive wastes, air pollution, and research on alternative energy sources."

The Ford Motor Company's gift represents a contribution to the five-year development campaign, Caltech at the leading edge . . .

Four young scientists named Sloan Fellows

Four young scientists on the Caltech faculty have been awarded Alfred P. Sloan Fellowships for Basic Research; each will receive support averaging about \$9,000 a year from the Sloan Foundation over a two-year period.

The fellows and the area in which their grants are given are: Geoffrey C. Fox, assistant professor of theoretical physics, physics; Henry A. Lester, assistant professor of biology, neurochemistry; Thomas C. McGill, MS '65, PhD '69, assistant professor of applied physics, physics; and George Zweig, PhD '64, professor of theoretical physics, neurophysiology.

These four are among 78 fellows who were chosen from 600 applicants for their capacity to conduct outstanding, creative research. They were selected on the basis of nominations by senior colleagues.

Sloan Fellowships are intended to help young scientists advance in fundamental research during the early stages of their careers. The recipients can use the funds for technical and scientific assistance, professional travel, summer support, computer time, support of predoctoral and postdoctoral fellows, and other approved purposes.

ASCIT president's goal: more input from students



Twenty-year-old Elizabeth McLeod was the first woman to run for ASCIT president—and the first to be elected. A junior majoring in biology, she defeated her two male opponents by a landslide margin; she received 192 votes while they received 54 and 41 votes, respectively. She doesn't believe that being a woman was a factor in the outcome. "I believe I was elected because of the platform I presented," she said. "The students were interested in my opinions on the issues." Here she talks about those opinions.

What is your main goal as ASCIT president?

My main goal is to improve communications between students and faculty-administration concerning decisions that affect our lives on campus. I hope to open up channels that will help students to know about changes under consideration before they are put into effect, so that they will have an opportunity for input.

How do you expect to accomplish this goal?

I want to make better use of a mechanism technically in existence, but unused for the past few years. Students are represented on all faculty committees, and initially they were supposed to present reports to the ASCIT secretary about all issues these committees were considering. Recently, these representatives have been keeping news of committee action to themselves.

I've been working with Jon Teich, student director of academic affairs, to initiate a system by which students will present reports before committee action is taken. These reports will help us to disperse the information and express student opinion. I'm not yet sure what mechanism we can establish for influencing decisions on the administrative level.

How successful do you expect to be in getting the administration and faculty to listen to your views?

In general, the administration and faculty are willing to listen when they are convinced that a particular issue is important to students, and when they feel student opinion is unified. Of course, sometimes it is hard to determine what student opinion really is.

How do you think life in the student houses can be improved?

I'm anticipating a substantial improvement next year. As you may know, there will be mandatory board contracts next year for most if not all of the seven undergrad houses, in contrast to this year when meals haven't been served. It is

going to be very beneficial for house residents to eat together again. Among other things, this change will mean that once more we can invite guests to dinner—faculty, alumni, and persons from off campus. Student life is enriched when we students can talk with people other than ourselves.

Personally, I would like to see the administration investigate the possibility of buying some off-campus apartment complexes for student housing, so that we could choose from a wider range of options in living environments.

What other improvements would you like to see in campus life?

We need more social events—and better participation in those that we do have. Admittedly, it isn't always easy to put over a successful social event at Caltech because of the shyness of quite a few of the kids—a characteristic aggravated by their feeling that they ought to be home working. At Caltech, there is always more work than anyone can ever accomplish.

Recently there has been some discussion about abolishing the humanities and PE requirements. What is your opinion?

I feel that physical education is extremely valuable for every student. But I also feel it would be silly to deny a student a Caltech degree merely because he hadn't completed his physical education requirement. Humanities courses are much more closely related to the work students will be doing after they leave the Institute. These courses are important in helping them learn to express themselves well—an ability that is important in scientific work. It is more difficult to relate athletics than humanities to the function of a Caltech degree.

Another aspect is the fact that a senior can generally petition for release from his PE requirement, so that what is stated in the catalog about the necessity for taking PE doesn't necessarily correspond with what happens in reality. This discrepancy doesn't exist for the humanities. I don't believe a subject should be listed as a requirement if it is not a requirement in fact.

What are some of your concerns with academic issues?

I see what appear to me to be inequities in requirements. For example, it seems inequitable that a student majoring in biology must take two years of physics while a physics major isn't required to take any biology courses. At the least, I believe students ought to be allowed to take arbitrary requirements on a pass-fail basis. Also, I would favor replacing F's with no-credit grades that wouldn't count against the GPA.

What are your views on freshman recruitment?

Interviews with prospective freshmen were cut back this year, ostensibly because of the gasoline shortage. I genuinely regret this action. I believe interviews with freshmen in their home towns are important if Caltech is going to continue attracting students of the caliber that it has attracted in the past. These personal interviews make the students feel that Caltech has a genuine interest in them, and this feeling can be important in their decision about where to enroll.

As ASCIT president, do you feel you will have any special problems because you are a woman?

I haven't encountered any problems yet, and I don't foresee any.

What do you feel to be the role of ASCIT?

To make students' lives easier by helping them to accomplish necessary changes; to direct them to the right person when they want to discuss some concern or to find out how to obtain money for a project; to continue the traditional duties in connection with the yearbook, newspaper, and athletic and social programs; to strengthen the honor system; and to become more involved in programs with other schools—perhaps through exchange seminars that would enable us to see what's happening on other campuses.

How can the alumni help?

By keeping up to date on what's happening at Caltech and making their opinions known if they hear of a new policy that they feel will be bad for students. Alumni opinion carries a great deal of weight. The alumni support a number of projects including Freshman Camp, and that's great—Frosh Camp just wouldn't go without them. I believe the students should work to show appreciation to the alumni for their support, and that ASCIT should work to see that students know what the alumni are doing for them.

NOTICE OF ANNUAL MEETING:

NOTICE IS HEREBY GIVEN that pursuant to the bylaws of the Alumni Association, California Institute of Technology, the Annual Meeting of the Members thereof will be held Thursday, the twentieth day of June, nineteen-hundred and seventy-four at 6:00 p.m. at the Athenaeum, 551 South Hill Avenue, Pasadena, for the purpose of receiving results of the election of officers and directors and for the purpose of transacting any and all business that may properly come before such meeting of the members.

STUART M. BUTLER, JR., '48, PRESIDENT
STANLEY T. WOLFBERG, '38, SECRETARY



As a speaker in the Caltech Y "Leaders in America" series, Linus Pauling, 73, was a visitor last month to the campus where he had been a faculty member for 38 years. Winner of two Nobel Prizes, Pauling is now director of the Orthomolecular Institute in Menlo Park and professor of chemistry at Stanford University. He gave three talks, on "Science in the People's Republic of China," "Vitamin C and the Common Cold," and "Nutrition." Summarizing his nutrition philosophy he said, "Don't eat sugar, don't smoke cigarettes. Eat a good, natural diet with vegetables and fruits and take supplemental vitamins. That's what I recommend for a longer life." Here, he talks with students.

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Meetings: University Club, 917 "H" St. Luncheon second Friday of each month at noon. Visiting alumni cordially invited—no reservations.

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Meetings: Engineers' Club, 16th floor, Hong Kong Bank Bldg., San Francisco. Informal luncheons every Thursday at 11:45 a.m. Contact Harrison Sigworth, 894-2918, on Thursday morning for reservations.

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Placement Assistance To Caltech Alumni

The Caltech Placement Service may be of assistance to you in one of the following ways:

- (1) Help you when you become unemployed or need to change employment.
- (2) Inform you of possible opportunities from time to time.

This service is provided to alumni by the Institute. A fee or charge is not involved. If you wish to avail yourself of this service, fill in and mail the following form to:

Caltech Placement Service
California Institute of Technology
Pasadena, California 91109

Please send me: (Check one)

- ☐ An application for placement assistance.
☐ A form indicating a desire to keep watch for opportunities although I am not contemplating a change.

Name

Degree(s) Year(s)

Address

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Left: Douglas Herbert, who set a new school mark in the discus. Alan Kleinsasser passes baton to Haywood Robinson in relay. Both figure to be strong contenders in the NAIA National Championships.

Season outlook bright for strong track squad

Two seniors and one junior, who between them hold seven school records, lead a nineteen-man Caltech track squad this spring. Coach Leroy Neal, in his first year as track mentor, heads a strong Beaver squad which has a good chance to place high in the final conference standings.

Neal, an Occidental alumnus, was an outstanding middle-distance runner in the mid-1960's. Neal had excellent marks in the 880 and mile as an undergraduate at Fullerton Junior College and Oxy. Last fall, he coached the Beaver cross-country team.

The track squad had a 1-2 record at the end of the second term with a win over Claremont and losses to Oxy and Pomona. The team has a strong chance of defeating La Verne, Redlands, and Whittier in the season's remaining meets.

Seniors Alan Kleinsasser and Haywood Robinson figure to be strong contenders in the NAIA National Championships. Kleinsasser, who holds the school 880 and mile records, should break both of his previous standards. His mile time should be under 4:10 by season's end.

\$169,000 still needed for endowment of DuBridge chair

The Associates of Caltech report considerable progress in raising the funds necessary for permanent endowment of the Lee A. DuBridge Professorship created to honor Caltech's president emeritus. But a substantial amount of money still is needed to meet a July 1, 1974, deadline.

In 1973, an anonymous donor pledged \$375,000 toward the professorship if The Associates could match this amount by July 1, 1974. In combination with the \$250,000 already contributed, this would provide the \$1 million needed for a permanent endowment.

So far, a total of \$206,000 of the necessary \$375,000 has been obtained. That leaves \$169,000 still to be raised by the deadline date. A committee of Associates, under the chairmanship of Eric Bond Ward, has been organized to help meet the goal.

An endowed chair in honor of DuBridge was established by The Associates in 1969. Members agreed to provide the funds necessary each year to pay the salary and expenses of the named professor, as well as to contribute to a permanent endowment. In the fall of 1970, Jesse L. Greenstein was named the Lee A. DuBridge Professor of Astrophysics.

Contributions for the professorship may be made to Caltech. Additional information can be obtained through The Associates office.

Robinson, who will enter medical school next year, holds the 100- and 220-yard dash records and promises to win most of his races this year. Robinson is also a strong performer in both the 440 and mile relays while Kleinsasser anchors the Beaver mile relay team. Robinson has run 10.0 and 22.4 this year, both on wet tracks, while Kleinsasser has logged a 4:14.3 mile and 1:56.2 880.

Junior Gregory Griffin is Caltech's outstanding distance ace. Holder of the 2-mile, 3-mile, and marathon records, he has already broken his own 2-mile record with a 9:17.6 race in early March. Griffin should attain his 3-mile mark of 14:25.6 in the major meets this May. He will be joined in the distance races by freshmen Joseph Arpaia, Stephen Kellogg, and Richard Pietrasz who are all outstanding prospects.

Douglas Herbert set a new school mark in the discus in early April at 146-9½. Herbert, who is a junior, has an excellent chance of breaking that record again before the season's end. He is also a 43-9 shot-putter. Herbert will be competing in the weight events with freshman Carl Lydick and sophomore John Middlebrooks.

Gregory Hoit, a versatile and strong competitor, will lead the team in the 440 intermediate hurdles and high hurdles as well as competing in the 100-yard dash and 440 and mile relays. Hoit, a junior, should push the school record in the intermediate hurdles before season's end. He will score a number of points for Tech again this season.

Senior Dale Bredesen has been a bright spot in Coach Neal's first season. Bredesen had a mark of 44-1¾ in the triple jump last month and a 20-5 long jump. Bredesen should be an important scorer in Tech's drive to place high in the conference meet. Bredesen also competes on the spring relay and in the mile. He is joined by freshman Duane Boman in the long jump and triple jump. Boman has had marks of 20-6 and 37-4 in these events. He also competes in the high hurdles.

Thomas Creswell, a freshman performer, had a mark of 55.1 in the 440, a mark of 63.2 in the intermediate hurdles, and also competes in the high hurdles. Creswell is an outstanding competitor and should score well in the 440 this season.

The team is rounded out by junior John Land with a 10.5 time in the 100 who competes in the spring relay; sophomore Ole Nielsen with a 5-8 high jump; junior Wilson Ho who is a 134' javelin thrower; freshmen pole vaulters Donald Hamasaki and Peter Pathe; and freshman Marcus Henderson in the javelin.

The strong Beaver team has showed improvement in each of its meets this year and should end the season with a good record.

Alumni recall an earlier era at reunion dinner

Determined that Techers should polish their manners, Mrs. Robert A. Millikan held Sunday afternoon teas in her home once a month—and invitations were interpreted as command performances. The critical test came when Mrs. Millikan would hand some luckless young man a cup of tea for one hand and a piece of cake for the other—and then introduce him to a guest from a local girls' school. As if on cue, the young lady would courteously extend her hand—resulting in crashing cups, splashing tea, and a very red-faced gentleman.

And C. C. Lauritsen built his first experimental X-ray tube with glass cylinders—used in those days as gasoline containers at service station pumps. He connected enough of them to reach from the bottom floor of the Kellogg Radiation Laboratory to the top.

At least, that's the way alumni of Pi Alpha Tau fraternity recalled some events of their student days when they met for a reminiscence-filled annual reunion dinner in the Athenaeum. There were no speeches—just conversation.

One of the five original fraternities on the campus, Pi Alpha Tau has initiated no new members since Greek-letter organizations were discontinued on campus in 1931. Thirty-two members and their wives gathered for the annual event.

William L. Holladay, BS '24, Altadena, was master of ceremonies in the absence of Kenneth A. Belknap, BS '27, Glendale,

who had been injured in an automobile accident and thus missed his first reunion in 42 years.

The group toasted Frederick J. Converse, professor of soil mechanics, emeritus, as the oldest member present. Converse came to the Institute in 1921, and was initiated as a charter member of Pi Alpha Tau.

Rosenstone a Fulbright scholar: to go to Orient

Robert A. Rosenstone, associate professor of history, will spend the next academic year at the University of Kyushu, Japan, as a participant in the Fulbright-Hays Program for Senior Scholars. There he will assist the university in setting up an American Studies Program and will teach some courses.

While in Japan, he will explore an interest in the ways Eastern aesthetic and philosophical thought has influenced American writers and thinkers from Emerson and Thoreau to such contemporaries as Alan Watts.

Jesse DuMond receives award from Utah State

Jesse W. M. DuMond, BS '16, PhD '29, 82, professor of physics, emeritus, has received the Distinguished Service Award from Utah State University, Logan. The honor is the highest given by that institution; it is bestowed annually upon individuals who have made outstanding contributions to the Logan community, to the university, or to their profession.

DuMond was selected because of his guidance while the university was establishing a graduate research program in nuclear physics. He spent two summers at Logan as a visiting professor in 1964 and 1965, contributing to this endeavor.

Eastman N. Hatch, PhD, '56, chairman of the Department of Physics at Utah State University, flew to Pasadena to present the award to DuMond, who was unable to travel to Logan for presentation ceremonies because of his health.

ALUMNI EVENTS

May 17

Reunion, class of 1964. Cocktails, 5:30 p.m., and dinner at the home of James B. Black, Pasadena.

May 18

Alumni Seminar Day. Caltech campus.

June 7

Reunion, class of 1924. Social hour, 11:30 a.m., followed by lunch, the Huntington-Sheraton Hotel. All members of the class of '24 will be inducted into the Half Century Club.

Reunion, class of 1934. Dinner, 7 p.m., the Athenaeum, preceded by a social hour at 5:30 p.m.

Reunion, class of 1939. Tentative plans are for a dinner in the Athenaeum.

Reunion, class of 1944. Dinner, 7 p.m., the Athenaeum, preceded by cocktails at 5:30 p.m.

Reunion, class of 1954. Dinner, 7 p.m., the Athenaeum, preceded by cocktails at 5:30 p.m.

June 14

Reunion, class of 1929. Dinner, 5:30 p.m., at the home of Milton Sperling, BS '29, South Pasadena.

June 21

Annual meeting, Alumni Association. The Athenaeum library at 1 p.m.

All reunion class members will receive formal invitations to their individual reunions, outlining the specific programs.

Corcoran elected fellow of the AIChE

William H. Corcoran, BS '41, MS '42, PhD '48, has been elected a fellow of the American Institute of Chemical Engineers. At Caltech, Corcoran is vice president for Institute relations and professor of chemical engineering.

He received the honor in recognition of professional attainment and significant accomplishments in the field of chemical engineering, and for his contributions to the advancement of the engineering profession and his service to the AIChE.

Corcoran has long been a leader in AIChE activities, both in the southern California section and at the national level. He is widely known in industrial and academic circles as an authority on many phases of chemical engineering and as an industrial consultant, teacher, researcher, and writer. At Caltech, he has played a major role in the development of the chemical engineering curriculum.

Corcoran has been active in research involving chemical kinetics, transport processes, rocketry, desulfurization of fuel oils, biomedicine, and process development of pharmaceuticals.

Mayhew, ill, wants to hear from friends

George P. Mayhew, Caltech's former master of student houses and member of the faculty for the past 20 years, has been ill since last June. Since time passes slowly during such a long convalescence, George and his wife, Joan, would enjoy hearing from their many friends at the Institute.

Mayhew came to Caltech in 1954 as an assistant professor of English and was promoted to full professor in 1968. He was master of student houses from 1954 to 1958. He suffered a heart attack in June 1973, and a second one in November, and has been on sick leave since last summer.

Correspondence should be addressed to Mrs. George P. Mayhew, Box 13, Catamount, Massachusetts 02534, c/o Ms. M. D. Scott. The Mayhews would welcome correspondence from their friends among the faculty, students, and staff.

PERSONALS

1927

JAMES BOYD writes, "I was elected an honorary member of the American Institute of Mining, Metallurgical and Petroleum Engineers in February 1974. I delivered the Orton Lecture to the American Ceramic Society in Chicago on April 29. I was awarded the Bay H. Parker Medal of the American Institute of Professional Geologists in November 1973, and finished the report of the National Commission on Materials Policy in June 1973. I formed and became president of Materials Associates."

1935

JOHN B. HIGLEY, staff engineer, radar systems, for the Raytheon Company in Lexington, Massachusetts, writes, "My youngest son, Robert, now in his sophomore year at Caltech, agrees that the old man went to a pretty good school."

CHARLES W. PATRICK, acting superintendent of the San Diego Community College District, retired in February after serving as an educator for more than 36 years.

1938

NEWMAN A. HALL, PhD, writes, "I am retired, living in New Hartford, Connecticut, and operating as a consultant in engineering and educational planning and management. Prior to this, I spent two years in Korea with the Agency for International Development as science advisor to the Korean government."

1939

DUANE W. BECK, MS '40, retired from Hughes Aircraft Company in August 1973 after 22 years of service as an engineering manager in Culver City, California. He and his wife are building a new home in an avocado grove near Somis in Ventura County, California.

JOHN C. EVVARD, MS '40, PhD '43, writes, "I retired June 29, 1973, as chief scientist at the NASA Lewis Research Center in Cleveland and am now enjoying the lakes region of beautiful New Hampshire."

WALTER B. POWELL MS '40, a member of the technical staff at JPL, recently conducted a series of four hiking and lightweight backpacking classes sponsored by the Pasadena Department of Recreation.

1940

FREDERICK C. BRUNNER, MS '41, and his wife have moved to West Germany, where Brunner will take over as managing director of the Fluor Corporation's office in Dusseldorf.

1942

HUGH A. BAIRD, MS '46, writes, "Since October 1971, I have been vice president of engineering for C F Braun & Company in Alhambra, where I have worked since getting my MS from Tech in 1946."

1944

FRANK A. BARNES, formerly a staff engineer scientist in the Aerospace Systems Division of the RCA Corporation in Burlington, Massachusetts, is now staff engineer at the C. S. Draper Laboratory, Inc., in Cambridge, Massachusetts.

WILLIAM A. TOOKEY writes that his law firm has merged with that of Anglea, Burford & Johnson; the combined Pasadena firm is known as Anglea, Burford, Johnson & Tookey.

1945

JOHN L. STERN, president of the S & M Development Company in Los Angeles, writes, "My wife, Ellie, and I celebrated our 25th wedding anniversary on July 3, and our daughter Debbie was married on June 24. She is an MA candidate in psychology at San Francisco State University."

1947

ROBERT K. RONEY, MS, PhD '50, a Hughes Aircraft Company vice president who was recently elected to the rank of Fellow in the Institute of Electrical and Electronics Engineers, was honored by the professional engineering society during its international convention in New York in March. Dr. Roney, who is an assistant executive of the company's space and communications group, was chosen by the society to receive

its highest award for his "leadership and inspiration in the exploration and applications of space technology."

JACK H. SLATON, MS, formerly an electronics engineer for the Naval Undersea Research and Development Center in Pasadena, is staff consultant for the same organization in San Diego, California.

1949

JOSEPH R. CANTWELL is still with the Boeing Company and is presently involved in the propulsion group working on the SRAM missile project.

JAMES H. CRATE, senior consultant on design at Du Pont's Technical Services Laboratory at Chestnut Run, Delaware, was the subject of an article in Du Pont's magazine, *Innovation*, earlier this year. The article, entitled "Creative Design: Combining Form and Function" describes Crate's practical know-how and imagination as a designer.



Robert K. Roney
MS '47, PhD '50

FRANK T. EDWARDS, JR., MS, formerly president and general manager of the Rasor-Edwards Equipment Company in Edmond, Oklahoma, was appointed director of the Oklahoma Aeronautics Commission in February. He has been teaching business management courses since he received his MBA degree from Central State University in Edmond in 1972, where he graduated *summa cum laude*.

LELAND H. SATRE is an engineer-consultant for the Gary Safe Company in the City of Industry, California. He had previously been project engineer for Air Logistics in Pasadena.

FREDERIC T. SELLECK writes, "I am now supervising process engineer in methods and data for the Fluor Corporation. I am also vice president of Fluid Properties Research, Inc., a cooperative, interindustry research organization for transport properties of industrial fluids and fluid mixtures." Selleck is a resident of Whittier, California.

1950

JOHN T. SHEPHERD, a retired captain in the U.S. Navy, is completing studies for a Doctor of Jurisprudence degree at the George Washington University Law School in Washington, D.C.

1951

ROBERT E. BIBLE of Rancho Santa Fe, California, was appointed director of the San Marcos facility for the Singer Company-Kearfott Division. He had previously been technical assistant to the facility director.

1955

BRUCE J. ROGERS, PhD, is chief of documentation and clinical research for Lee Pharmaceuticals in South El Monte, California. He had previously worked in the Department of Horticultural Science, UC Riverside.

1956

LEON H. BASSETT, MS, formerly vice president of operations for the Skil Corporation in Chicago, Illinois, is president of Skil Japan Ltd., in Tokyo.

JAMES L. HIGGINS, marketing manager for the Endevco Dynamic Corporation, has moved with the company from Pasadena to San Juan Capistrano, California.

1958

JACQUES M. RIEUNIER, MS, is director of the units of production for Michelin Reifenwerke A. G. in West Germany.

JAMES S. RODE, MS '59, writes, "My wife, Sue, and I are the proud parents of an eight-month-old baby boy, David Christopher, born in September 1973. We live in San Diego. Currently employed at Gulf

General Atomic, I was promoted to manager, fluid systems, last November. In this position I am responsible for the design of systems required for the operation of a high-temperature gas-cooled reactor (HTGR) nuclear power station."

1960

EDWARD H. SIMON, PhD, a professor in the Department of Biology at Purdue University in Lafayette, Indiana, writes, "Our fourth child, Ronit Margolit, was born in Jerusalem on September 30, 1973, just before the Yom Kippur War."

1961

IAN D. MARKS is senior consultant for Compata, Inc., in Tarzana, California.

1962

STEVEN C. CROWN, MS '63, PhD '66, is president of Poseidon Research, a new corporation for the advancement of naval hydrodynamics in Santa Monica, California. He will retain his position as associate professor of engineering and applied science at UCLA.

FRANK E. MULLIN, formerly an applied mathematician with TRW Systems in Redondo Beach, California, is a computer analyst for TRW in McLean, Virginia.

1963

ALAN LIPPERT, MS, writes, "My current assignment with IBM in West Germany will terminate this summer. Still connected with IBM, I plan to return to the metropolitan New York area."

DAVID S. SIEGEL is president, Computer Sales Division, for The Computer Exchange, Inc., in San Francisco.

LOUISE D. GRAY YOUNG, PhD, formerly a senior scientist at JPL, is a research scientist in the Physics Department at Texas A&M University in College Station, Texas.

1965

TIMOTHY O. MURRAY, MS, married Natalie Hubbell on November 3, 1973. Mrs. Murray is an RN, and a graduate *magna cum laude* of Texas Christian University in Fort Worth. The Murrys are living in Hickory, North Carolina.

WILLIAM M. PENCE, MS '67, writes, "I recently established a new company, Group Three Electronics, a division of Ward-Davis Associates. I am still a partner in Ward-Davis, as well as president of Group Three, a distributor of electronic instrumentation." Pence is a Pasadena resident.

1967

JAMES T. BEALE received his MS and PhD degrees in mathematics from Stanford University in June 1973. He is assistant professor in the Department of Mathematics at Tulane University in New Orleans, Louisiana.

ROBERT G. BELLUE, MS, is a salesman for IBM in Marseille, France.

ROBERT L. MILTON received a PhD degree in astrophysics from UC Santa Cruz in June 1973. He is currently working at R&D Associates in Santa Monica, California.

JAMES M. SOHA writes, "I was with IBM sales in Los Angeles for two years after graduation. Since 1969 I've been with the Image Processing Laboratory at JPL, working on Mariner pictures. If you liked Mars and Venus, you'll love Mercury!" Soha was married to Linda Cohen in April 1971, and they are the parents of Jill, who is two years old. Soha received an MSEE degree from USC in July 1973.

1968

FRANCOIS M. M. MOREL, MS, assistant professor of civil engineering, has been named MIT's first Henry L. Doherty Professor of Ocean Utilization for a two-year term. The Doherty Professorships were established in 1973 to encourage promising junior faculty members whose research interests are in developing better ways to use the world's oceans.

MARSHALL I. SCHOR, who has been working as a staff engineer at IBM's San Jose, California, facility since graduation, was re-

cently married in Palo Alto. The ceremony was performed by DAVID C. ERLICH, BS '68, a minister in the Universal Life Church and a research physicist in the Shock Physics and Geophysics Group at the Stanford Research Institute in Palo Alto, California.

1970

JOHN B. JAMIESON, MS, is a parole agent for the California Department of Corrections in Santa Barbara, California.

LAURENT B. SIDOR, MS, is a systems analyst for Lulejian & Associates, Inc., in Torrance, California.

1971

THOMAS L. MOELLER, MS, is a member of the technical staff of IBM's research division in Yorktown Heights, New York.

1972

ROBERT D. FRISBEE writes, "I am working for Texas Instruments as an application systems analyst and programmer. The project to which I am contributing my services is a support system for seismic oil exploration. I have already been highly commended on the quality of my work, and I feel this is due to the fine training in abstract thought that I received at Caltech."

1973

SANFORD A. BOLASNA, MS, is an assistant programmer for IBM in San Jose, California.

OBITUARIES

1913

RAY GERHART in Pasadena on March 25, 1974. He is survived by his wife, Marion, of Pasadena, and three sons, Robert of Pasadena; James of Seattle, Washington; and Ray of New York City.

1918

H. DARWIN KIRSCHMAN, MS '19, PhD '29, of a heart attack in Hawaii on January 20, 1974. He retired in 1967 as a research chemist for a Los Angeles firm.

1943

THOMAS S. LEE of cancer in June 1972. He was a staff scientist for the Aerospace Corporation in El Segundo, California.

1945

ADRIAN C. ANDERSON of a heart condition on February 9, 1974. An 18-year resident of La Canada, California, Anderson achieved an outstanding sales record with the New York Life Insurance Company during his 19 years with the company; he was a member of the coveted \$1 Million Round Table for top agents. He is survived by four children, Linda, Sharon, Betty Jean, and Robert, all of La Canada.

CLIFFORD O. HARVEY, JR. He was manager of the B-1 program plans for the North American Rockwell Corporation in Los Angeles. A memorial fund has been established, and contributions may be sent to the Caltech Alumni Fund Office.

1953

JAMES H. WYMAN on February 22, 1974. He was president of the Industrial Automation Corporation in Santa Barbara, California.

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