

CALTECH NEWS

VOLUME 6, NUMBER 4, MAY 1972

PUBLISHED FOR ALUMNI AND FRIENDS OF THE CALIFORNIA INSTITUTE OF TECHNOLOGY

Fund Council members appointed

President Harold Brown and Alumni Fund Chairman Donald D. Davidson, BS '38, have announced the members of the Alumni Fund Council, the alumni group that will lead the annual Alumni Fund campaign. The appointments were made jointly by the Institute and the Alumni Association.

In announcing the alumni appointed to the Fund Council last month, President Brown said, "We are all very pleased that such outstanding leaders have accepted the responsibility of guiding this vital undertaking."

"The Alumni Fund is important to the continued success of the Institute. To a

great extent, the favorable outcome of the fund will depend on the efforts of the council members in communicating the critical needs of Caltech to all alumni."

Under the chairmanship of Davidson, the Alumni Fund Council will set goals for the Alumni Fund and decide on the policies and procedures to be followed in communicating with alumni. The members will also help to implement the policy through personal solicitations they make.

The Alumni Fund Council's first meeting will be on campus May 15 to organize and establish campaign objectives. All alumni volunteers helping with the

Fund campaign as area chairmen, class agents, and option agents will be invited to participate in a Leadership Conference on campus next September.

Members of the Alumni Fund Council were selected because of the interest they have shown in Caltech activities and their willingness to work. In addition to Chairman Davidson, they include:

Horace W. Baker, BS '35—president of J. T. Thorpe, Inc., in Los Angeles.

Frank W. Davis, BS '36—president of Convair Aerospace Division of General Dynamics Corporation in Fort Worth, Texas.

J. Benjamin Earl, BS '44—president of The O. K. Earl Corporation in Pasadena.

Patrick J. Fazio, BS '53—vice president of McCulloch Oil Corporation of California in Los Angeles.

William A. Freed, BS '50—president of A. S. D. Properties in Pasadena.

Stephen H. Garrison, BS '65, MS '66—area investment manager for Systech Financial Corporation in Los Angeles.

Barton Jones, Ex '22—retired president of Barton Instrument Corporation in San Marino.

Robert J. Kieckhefer, BS '45—a private investor in Chicago.

Artur Mager, PhD '53—vice president and general manager of Engineering Science Operations for Aerospace Corporation in Los Angeles.

John L. Mason, BS '47, MS '48, PhD '50—director of engineering, AiResearch Manufacturing Company in Los Angeles.

Stanley R. Rawn, Jr., BS '52, MS '53—chairman of the board of Pan Ocean Oil Corporation in New York.

Robert P. Sharp, BS '34, MS '35—professor of geology at Caltech.

Harrison W. Sigworth, BS '44—member of Executive Office Staff of the Stan-

dard Oil Company of California in San Francisco.

Charles F. Thomas, BS '35—manager, Government Group, Western Region, for Raytheon Company in Los Angeles.

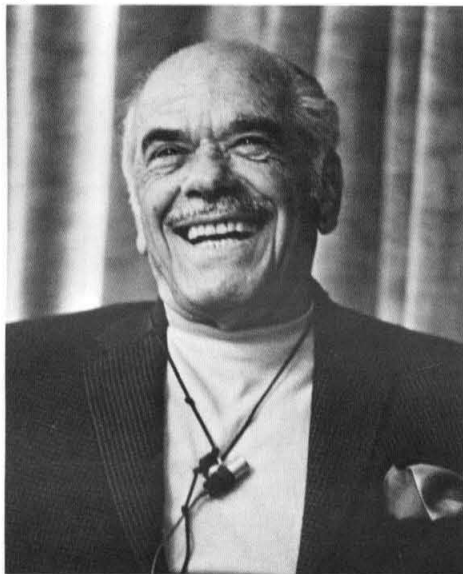
All of the 15 Council members are members of the Alumni Association, with 4 of them having been presidents of the Association at one time or another and 3 others having served on the Association's Board of Directors. Eight of the Council members are members of the Associates and one—Frank Davis—has received the Alumni Distinguished Service Award.

Ex officio members of the Council include the current Alumni Association president, Reuben B. Moulton '57; the Association's executive director, James B. Black, and Robert G. Lamkins, The Institute's director of annual giving.

Capra lectures on films; gives ranch to Caltech

Frank Capra, BS '18, the poor Sicilian immigrant's son who needed three part-time jobs and a loan to get through college, returned to Caltech April 17. It was quite a homecoming.

Not only did Capra deliver the Monday Night Lecture, he and his wife Lucille also gave Caltech their \$250,000 ranch in Fallbrook. The 14-acre Lu-Frank Ranch, with its five-bedroom house, swimming pool, and groves of avocado and citrus trees will be used as a retreat by the Institute.



Frank Capra, '18

The week before, Capra was seen by a world-wide television audience presenting the Academy Award to the year's best director. But the director whose films earned more consecutive Academy Awards than any man's in history seemed more pleased by the standing ovation he received from the capacity crowd in Beckman Auditorium.

In the audience to hear his lecture on "A Caltech Alumnus in the Arts" were many of Capra's old friends including Carl Anderson, Caltech's Nobel Laureate and professor emeritus of physics, and General Jimmie Doolittle, one of America's leading heroes of World War II.

Capra, who is a director of the Associates and also supports a student film project, was introduced by trustee Henry Dreyfuss as Caltech's most famous "defector to the arts."

After discussing the problems of censorship and the reasons for Hollywood's current trend toward violence and sex, Capra told some of the anecdotes about his meteoric rise from gag writer of Mack Sennett comedies to one of the world's most successful directors.

Then Capra showed scenes from his most memorable pictures and the silver screen showed, more eloquently than any words, the magic touch of a man who helped to raise film to the status of a genuine art form. From "It Happened One Night," the winner of five Academy Awards, to "Lost Horizon," the film that made Shangri-La an unforgettable dream for moviegoers around the world, the audience in Beckman Auditorium was treated to a rare display of one man's genius.

Morgan named dean of students

James J. Morgan, professor of environmental engineering science, is Caltech's new dean of students. He was selected by a committee of faculty and students, and his appointment was announced this month by President Harold Brown.

Morgan, 39, succeeds Robert A. Huttenback, professor of history, who became chairman of the division of humanities and social sciences in December.

As dean of students, Morgan will share the responsibilities in undergraduate affairs and academic problems with Lyman Bonner, director of student relations.

David Wood, professor of materials science, will continue as associate dean.

"One of the most important things I will be doing is exploring ways that Caltech's educational opportunities can be adapted to suit the needs of individual students," Morgan says.

"We should be sensitive to the things students would like to do to extend their education, and be active agencies to make them available."

Morgan points out the importance of faculty and student self-government procedures in enacting changes at Caltech. He hopes to facilitate good communication between the two groups, but emphasizes he is not interested in change for its own sake but rather "I just want to make sure we don't miss any opportunities."

The new dean says, "I will spend enough time with the undergraduates to keep aware of how we might make their stay here more enjoyable academically. I also want to explore ways of augmenting opportunities for them to add to their extracurricular activities."

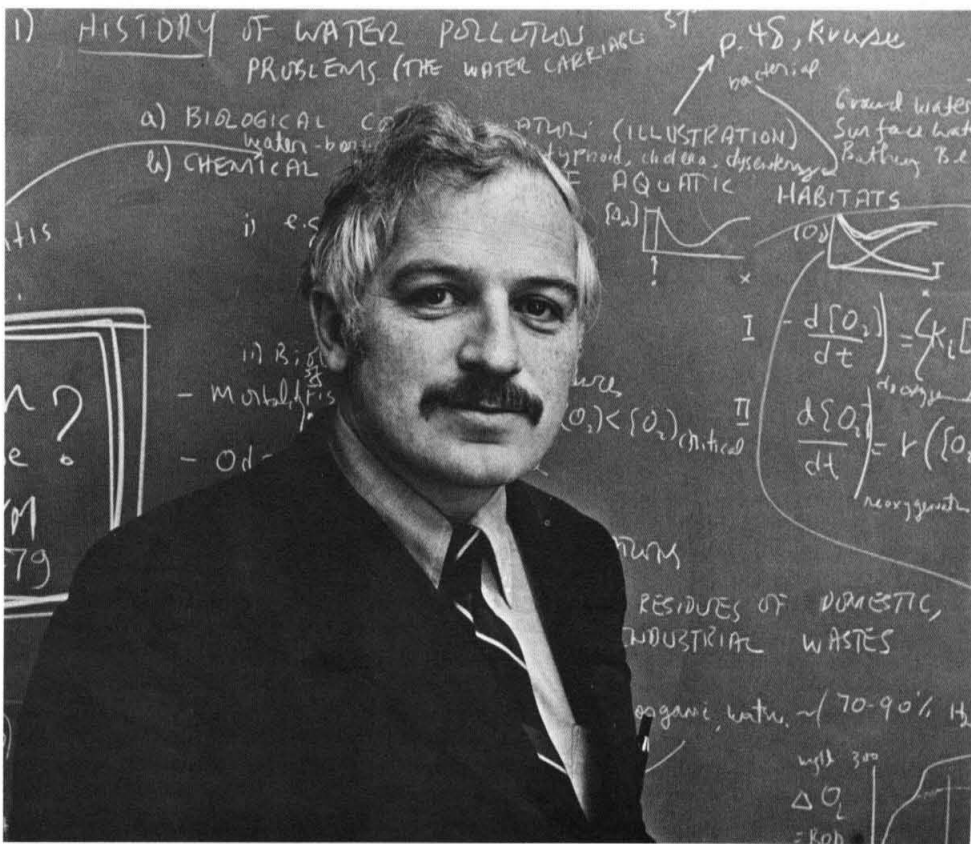
Morgan expects to spend half of his time on his new duties and the rest of

the time in teaching, advising graduate students, and conducting his research in water chemistry.

Morgan received his BA degree in civil engineering at Manhattan College in New York City and his MS in engineering at the University of Michigan. He also took an MA and PhD degree in applied chemistry at Harvard. He taught engineering and chemistry at the Uni-

versity of Florida before coming to Caltech in 1965.

Since 1967 Morgan has been editor of *Environmental Science and Technology*, an American Chemical Society journal devoted to chemical research on the environment. He also is co-author, with Werner Stumm of Harvard, of *Aquatic Chemistry*, a widely used college textbook.



Caltech's new dean of students, Prof. James Morgan, was the choice of both students and faculty.

Don't Forget!
ANNUAL MEETING
June 2
Class Reunions
Make your reservations
with the Alumni Office.



Grad student Bill Beranek (left) organized day of chemistry demonstrations for blind students.

Richter, Lindvall form earthquake advisory service

Two of Caltech's best known "elder statesmen," both of whom received their PhD's at the Institute in 1928, have combined their knowledge and experience to form what they term "a new concept for an earthquake advisory service." They are Charles F. Richter and Frederick C. Lindvall.

Richter is a professor emeritus of seismology and creator of the Richter magnitude scale used all over the world to measure the size of earthquakes. Lindvall, now vice president of engineering for Deere & Co., Moline, Ill., was chairman of the division of engineering and applied science until his retirement in 1969.

The "associates" of Lindvall, Richter & Associates are geologists Richard H. Jahns and C. Eric Lindvall, soils engineer Ronald F. Scott, and Ray W. Clough, an authority on structural dynamics and professor of civil engineering at Berkeley. Jahns (BS '35, PhD '43) is dean of the school of earth sciences at Stanford. Scott is a professor of civil engineering on the Caltech faculty, and was a member of the soil mechanics team for the Apollo manned lunar mission, and principal investigator for NASA at the Jet Propulsion Laboratory on lunar soil properties.

The firm is based in Los Angeles and is designed to advise on all earthquake-related phases of major building projects.

Lindvall and Richter point out that the probability of another major earthquake in California is not a far-fetched doomsday prophecy.

They say it is going to happen, but with the application of knowledge gained during past earthquakes, the knowledge learned from research, and intelligent planning, they believe the earthquake hazards to life and property can be significantly minimized.

PTT president to speak at annual alumni dinner

Jerome W. Hull, president of the Pacific Telephone and Telegraph Company, will be the featured speaker at the annual dinner meeting of the Alumni Association, June 2 at the Athenaeum. The title of his talk will be "The Bell System—Millions and Millions."

Caltech's oldest living alumnus, Kirk Dyer, BS '02, is among the alumni expected to return to campus June 2 for class reunions in and around the Athenaeum. He will be celebrating his 70th reunion.

Members of the Class of 1922 will be inducted into the Half Century Club at a special luncheon meeting at the Huntington-Sheraton Hotel.

Other classes which will be holding reunions on campus are 1932, 1937, 1942, 1947, 1952, 1957, 1962, and 1967. Members of the Class of 1972 will be special guests of the Alumni Association.

A campus tour will be arranged for alumni, beginning at 4 p.m. The social hour will start at the Athenaeum at 6 p.m., followed by dinner at 7 p.m.

Blind students enjoy afternoon at Caltech

It was a good Saturday to be out on campus. It was sunny, smogless, and crisp, and the breeze carried the smell of flowering shrubs.

Alan, a 15-year-old blind high school student from Whittier, probably appreciated these elements more than his Caltech student companion. He was one of a group of blind high school students invited to campus April 15 by Bill Beranek, a chemistry graduate student and Fleming House RA.

Beranek had devised a series of chemistry experiments which he felt blind students could appreciate and learn something from by touching, hearing, and smelling.

The visitors were piloted in groups of

from three to five by Caltech undergraduates. They gathered at Fleming House and walked over to Noyes Laboratory where they touched, smelled, and heard parts of such experiments as the formation of ester from alcohol and acid, the addition of naphthalene to dioxane solvent, and what happens when dilute acetic acid is added to bicarbonate.

Then the blind students went out to the Millikan Library reflection pool where their Caltech hosts asked them to mix two viscous liquid pre-polymers and stir them well. They were cautioned not to inhale the fumes or touch the developing foam. After a few minutes they were touching, with wonder, the formation of a solid polyurethane.

After the chemistry walk, the Caltech students took their guests back to Fleming House. Anyone walking along alley two might have glimpsed laughing sighted and sightless young people crammed together on a shimmying water bed, talking about science, their lives in general, and playing records and drinking cokes.

They all stayed for dinner and more informal visiting. One girl was still fingering her glob of polyurethane.

"Hey!" she exclaimed! "I know what this feels like! One of those sugar ice cream cones."

Several accepted the invitation to go for a swim over at the gym before going home.

The last ones to leave stood reluctantly on Olive Walk. Rock music poured out of one of the Fleming rooms.

"My, that music's loud," murmured one of the counselors who had driven the students over.

"I wish I were back up there," said one of the blind students. "That was fun!"

Bill Beranek wishes more people in positions to do so would plan days such as this. It is easy to do, he points out, and he has since had several phone calls from the blind guests, thanking him for new and rewarding experiences.

"I'm sure they learned things," Bill says, "but the big surprise to me is what the Caltech students learned about each other. One told me: So-and-so was just great with those blind kids—and here I always thought he was nothing but a clown."



Jack Schlacter (left) of Fleming House describes chemical reaction to blind high school visitor.

Math team captures national title

Problem A-6

Let c be a real number such that n^c is an integer for every positive integer n . Show that c is a non-negative integer.

Do you have the answer already? If so, drop the career you're in. It's not good enough for a brilliant, intuitive, ingenious, creative, aggressive person like you.

The problem was one of 12 posed in the 1971 national Putnam Mathematical Competition, and not one of the 1,569 college and university students entered from the U. S. and Canada solved it.*

As it turned out, the Caltech math team of Michael Yoder, David J. Smith, and Bruce Reznick didn't have to solve it. They won first place anyway. And in the individual rankings Yoder was sixth, Reznick was among the next four highest ranking contestants, and Smith received one of 32 honorable mentions. Caltech was the only school to have two people in the top ten and one in the top six.

Forty Caltech undergraduates turned out for the competition, which was held Saturday, December 4. They gathered in the math department in Sloan and took their places at desks in the lounge and the library.

Gary Lorden, an associate mathematics professor who was a Putnam contestant as a Caltech undergraduate, was this year's competition supervisor. He says that it is a tough way to spend a day. The test stretches from 9 to 5 with a two-hour lunch break that doesn't begin to take the kinks out of the participants.

*Caltech News will print the answer as soon as it appears in the Mathematical Journal.

Lorden explains that the "puzzles," as he calls them, require more in the way of agile thinking than they do mathematical knowledge. An extremely nimble-witted student who has had freshman calculus can do as well as anybody.

Lorden says that most mathematicians aren't used to time limit pressures. If an answer doesn't come, it's generally possible to let it simmer on the back burner for a while.

"But the Putnam," he points out, "takes the ability to do things you're not used to. It's a lot like research. To be successful you've got to have courage to keep on when it looks hopeless. Some really outstanding math students have

often bombed out completely on this kind of competition. The Putnam takes insight and problem-solving ability more than anything else."

The team of Yoder, Reznick, and Smith was made up of exceptionally inventive mathematics students whose abilities were recognized as early as their grade school days. Smith '72, Reznick '73, and Yoder '74 have entered the competition before, and all agree that five o'clock on Putnam Day finds the brain feeling as useless as a dead jellyfish.

What did the team members do to revive their boggled minds? They spent the evening watching a campus showing of "The Yellow Submarine."



Caltech's math team of (from left) David Smith, Bruce Reznick, Gary Lorden (coach), and Michael Yoder captured top honors in the 1971 national Putnam Mathematical Competition.

Spring sports scene full of action

GOLF

Coach Harold Cassriel

The 1972 Caltech varsity golfers have scored two victories in their last twelve starts. They defeated Pasadena College in pre-season play and La Verne in a league match. They went down by a narrow defeat, 30 to 24, in a league encounter with Claremont-Mudd.

Roger Goodspeed, last year's outstanding junior, continues to be Caltech's low scorer. He has had several rounds in the 70's and is getting extensive competition from senior Jim Simmons, last year's winner of the J. Ben Earl Golf Trophy for "Outstanding Achievement In Golf," and sophomore Jeff Borders, who also has scored in the 70's.

Here is the regular standing lineup:

Roger H. Goodspeed	Sr.	Santa Barbara, Calif.
James P. Simmons	Sr.	Scottsdale, Ariz.
Jeffrey L. Borders	So.	Solano Beach, Calif.
Phillip K. Nygren	Fr.	Winnetka, Ill.
Joseph H. Fahle	Fr.	San Diego, Calif.
Gary A. Frankel	So.	Waco, Texas
David M. Saunders	Fr.	Somerdale, N.J.

TRACK AND FIELD

Coach Bert LaBrucherie

A small group of sixteen candidates turned out for track this year. Among these were six returning lettermen: Charles Almquist, junior hurdler; Ratchford Higgins, senior distance man; Jeff Hurn, senior sprinter; Al Kleinsasser, sophomore miler and halfmiler; Gary Stormo, senior long, triple, and high jumper and sprinter; and Charley Thoele, senior javelin tosser.

Three former squad members turned out. They are sophomore Bob Ellgas, long and triple jumper; Dave Evans, junior hurdler and triple jumper; and Tom Herman, sophomore halfmiler. Another sophomore, Haywood Robinson, sprinter, is out for the first time, as is Mike Yeung, senior high jumper.

Five freshmen are welcome additions: weight men Doug Herbert and Monte Ragland; Greg Hoit, quartermiler; Steve Pohorsky, long and triple jumper; and Greg Griffin, who runs the mile, the 2-mile and the 3-mile events.

To date, Alan Kleinsasser has been outstanding. Last season he set a new half-mile standard of 1:52.1, and to date he has set a new school record twice in the mile, the first time in 4:20.8 and the second time he lowered that to 4:19.4. He has already run the half in 1:53.5 which is the second best time in the SCIAC and 17th nationally in NAIA competition.

Charley Almquist has lowered the 440 intermediate hurdle school record to 54.9, which is excellent for this time of year. With expected improvement, Charley should considerably better this time, and he has an excellent chance to represent Caltech nationally.

Gary Stormo is the all-around competitor on the squad. He has very good marks in the long, triple, and high jumps, besides running both sprints and a leg on the 440 relay.

To date, Caltech's best showing has been a 70-58 win over UCSD and a sixth place in the SCIAC Relays, which were



Hurler Phil Gschwend makes a throw to first baseman Doug Schladweiler, but it was too late to catch Whittier base runner in game at Caltech.

won by Occidental. We have lost to Claremont-Mudd, 57 to 84; Pomona College, 39 to 105; Occidental, 44 to 91; Pasadena College, 70 to 74; and Chapman, 65 to 80.

Personnel by event with best marks to date:

100 — Robinson, 10.0; Stormo, 10.3; Hurn, 10.3
220 — Robinson, 22.6; Hurn, 23.2; Stormo, 23.8
440 — Hoit, 52.8
880 — Kleinsasser, 1:53.5
Mile — Kleinsasser, 4:19.4; Griffin, 4:31.5
2 Miles — Griffin, 9:56.1; Higgins, 10:00.9
3 Miles — Griffin, 15:38.0
120 HH — Almquist, 15.7
440 IH — Almquist, 54.9; Hoit, 61.0
Shot — Herbert, 40-7; Ragland, 40-1/2
Discus — Herbert, 125-7; Ragland, 120-8
Javelin — Thoele, 174-3/4
Long Jump — Stormo, 22-13/4; Ellgas, 19-10
Triple Jump — Stormo, 43-3; Ellgas, 38-5/2
High Jump — Stormo, 6-3/4

The squad is devoid of pole vaulters. The track team has been very fortunate indeed to secure the services of Rick Sloan, 1968 Olympian in the Decathlon. Rick is making an invaluable contribution in coaching all the field events and the hurdles.

Remaining Schedule

Fri. May 5	3:00 p.m.	SCIAC All-Conf. Prelims @ Claremont-Mudd
Sat. May 6	1:30 p.m.	SCIAC All-Conf. Finals @ Claremont-Mudd
Fri. May 12		NAIA District III Meet @ Balboa Stadium, San Diego
Sat. May 12		NAIA District III Meet @ Balboa Stadium, San Diego

TENNIS

Coach John Lamb

The Varsity Tennis Team has a much stronger record for the first half of the season as compared to 1971. Last year we had no wins, but this year our record is 4 wins and 8 losses.

Our line-up at present, in order of playing position, is as follows:

1. Ken Pischel	Sr.	Santa Ynez, Calif.
2. Jeff Shellan	Fr.	Renton, Wis.
3. Andy Chow	Sr.	North Highland, Calif.
4. Dave Dummit	Fr.	San Mateo, Calif.
5. Mo Nakatsui	Fr.	Los Angeles, Calif.
6. Pat McCrea	So.	San Leandro, Calif.

Contending for a place in the varsity—
Bruce Eisenhart Jr. Wyckoff, N.J.
Bruce Jacobsen So. Cupertino, Calif.

A very strong frosh, Dave Beatty from Arcadia, Calif., injured himself during the Claremont match while playing a strong fourth singles and second doubles. This undoubtedly hurt us against La Verne.

In doubles, Pischel and Chow play number one, Nakatsui and Eisenhart are second, and Dummit and Alan Brothers (a junior) are third.

We have every expectation of finishing higher in the conference than last year, and are looking forward to the SCIAC tournament May 5 at Whittier.

BASEBALL

Coach Ed Preisler

Experienced baseball players were as scarce as hen's teeth around the Caltech campus this spring. The horsehidors started practice with but two regulars on the roster. However, the total of fifteen hopefuls represented the most candidates that have signed up in about five years. The two regulars returning were Phil Gschwend, last year's third baseman and shortstop Bob Pleva. Reserve 1971 chucker, John Ellis, is serving as a starter on the mound this year as well as filling in at one of the outfield positions when not pitching. Reserve outfielder John Tris-

tano is also seeing considerably more action this season.

In the early going Gschwend has been the most effective chucker, displaying the best control of all the pitching candidates. Phil is also the most versatile player on the squad, doing Trojan chores as a catcher, infielder, and outfielder.

Newcomers who have shown exceptional talent include: catcher Walt Sman-ski who also doubles as a pitcher and first baseman Doug Schladweiler, to date the leading batter. Rick Mitchell is potentially the "best bet" as a starting pitcher once he wins his battle with his control.

All-conference second team outfielder Tom Howell is a late addition to the roster and already has taken up where he left off last year by hitting a strong .363 in conference play.

The starting line-up usually has been the following:

1. Bob Pleva, ss, 2b	So.	Indianapolis, Ind.
2. Doug Schladweiler, 1b	Fr.	Sioux Falls, S.D.
3. Tom Howell, cf	Jr.	Mountain View, Calif.
4. John Ellis, p, cf	Jr.	Salem, N.H.
5. Walt Sman-ski, c	Fr.	Chicago, Ill.
6. Phil Gschwend, lf, p, ss	Jr.	Antioch, Calif.
7. John Stemple, 2b, rf	Fr.	Falls Church, Va.
8. Rick Mitchell, rf, cf, p	Fr.	Torrance, Calif.
9. Steve Schnetzer, lf, rf	So.	Lawrenceburg, Ind.

Other candidates vying for starting positions include:

Val Catanzarite, of	Fr.	Rolling Hills, Calif.
Cliff Brown, of	Jr.	Skokie, Ill.
Allan Mayer, 2b	Fr.	Montpelier, N.D.
Brian Luke, p	Fr.	Torrance, Calif.

The SCIAC is a close race between newcomer La Verne, Occidental and defending champ Claremont-Harvey Mudd. Each team has a wealth of material and is particularly blessed with outstanding pitchers.



Haywood Robinson and Jeff Hurn finish one-two in 200-yard dash against Pasadena College.



Alan Kleinsasser, Caltech's record-holder in the half mile, has good chance to win SCIAC title.

PERSONALS

1929
FREDERICK R. CLINE, MS '30, has recently retired from the U.S. Army Corps of Engineers. He was chief of the Design Branch in the Los Angeles District. Between them, he and EDWARD KOEHM ('30) have 77 years of service in civil and military public works.

1930
EDWARD KOEHM has retired from the Los Angeles District of the U.S. Army Corps of Engineers. He was chief of the Engineering Division.

1932
C. P. SCHOELLER retired May 1 after 33 years with Morrison-Knudsen Company. He plans to stay in Brazil.

1936
BRUCE L. HICKS, MS '37, PhD '39, after 16 years in engineering at the University of Illinois, has now moved to the College of Education there and has published the first text on computer-assisted instruction, *The Teacher and the Computer*. (W. B. Saunders Co.), co-authored by S. M. Hunka of the University of Alberta.

1938
NEWMAN A. HALL, PhD, has been designated as chief of the newly established office of Science and Technology of the U.S. AID Mission to Korea. His major responsibility will be that of science adviser to the Minister of Science and Technology of the Korean Government in the establishment and development of new research and advanced educational institutions.

1940
TED WEAVER, MS '42, manager of Technology Development for Fluor Corporation's engineering and construction operations, Los Angeles, is the new vice president of the American Institute of Chemical Engineers. He assumed his new duties the first of the year after having been chosen in a national election last fall.

1945
WILLIAM R. DOTSON is assistant district engineer for the California Division of Highways in San Diego.

WALTER K. DEACON, MS, is now the chief executive officer of Precision Monolithics, Santa Clara, California.

1947
NORMAN C. APPOLD, MS, is now C-5 Deputy Program Manager, Lockheed-Georgia Company, Marietta.

ALBERT H. J. MUELLER, MS '49, has been appointed manager of Hughes Aircraft Company's missile manufacturing division, Tucson. He has been manager of the NASA programs division in the Hughes space and communications group.

1948
HARVEY O. NAY, MS, AE '52, formerly with McCulloch Aircraft, is now chief engineer with Cessna Aircraft in Wichita, Kansas.

1951
ROBERT E. COVEY, MS '52, has been appointed manager of the newly established Affirmative Action Program (AAP) Office at the Jet Propulsion Laboratory. At JPL since 1952, Covey has held positions of manager of the Aerodynamic Facilities Section and the Space Simulation and Facility Engineering Section. Two years ago, he headed the JPL portion of a joint Caltech-JPL study



Weaver '42



Mullins '54

resulting in formation of the Environmental Quality Laboratory.

1953
THOMAS T. TAYLOR, MS, PhD '58, professor of physics and chairman of the Physics Department, Loyola University, Los Angeles, was elected a Fellow in the Institute of Electrical and Electronics Engineers. Taylor is presently being honored for the development of the technique of antenna aperture synthesis by adjustment of pattern zeros.

1954
JOE H. MULLINS, MS, PhD '59, has been promoted to head of the T2 Digital Line Department at Bell Laboratories in Holmdel, New Jersey. Since joining Bell Labs in 1967, Dr. Mullins has been involved in the development of the new millimeter waveguide transmission system.

1956
SAMUEL R. PHILLIPS, MS '57, formerly with Arkon Scientific Labs, is now chief engineer, Applications Equipment Devices Division, Raychem Corporation, Menlo Park, California.

1957
GEORGE E. HALL is now with the Arica Institute in New York.

1959
DONALD J. KETTER, MS, is presently working as a design specialist for Lockheed Aircraft Corporation in Burbank.

1960
LESTER L. HIRST is currently a research physicist with the Institute Laue-Langevin, Garching, West Germany.

1961
BRUCE T. ULRICH has returned to the Department of Astronomy at the University of Texas. He had been on leave during 1970-71 at the Ecole Normale Supérieure of the University of Paris doing research in low temperature physics.

1962
WILLIAM FARRELL, after completing his graduate work at UCSD, is a research fellow at the Cooperative Institute for Research in Environmental Sciences at the University of Colorado.

1965
STEVE GARRISON, MS '66, is now area investment manager of Systech Financial Corporation in Century City.

1966
MICHEL S. EL RAHEB, MS, PhD '70, is a senior scientist with Aerospace Technology, Developmental Sciences Corporation, City of Industry, California.

1968
DONALD C. BRABSTON, JR., MS, is back at Caltech as a graduate student after serving at Naval Security Group Headquarters.

1969
DENNIS A. KODIMER is working as design engineer with Sperry Flight Systems in Phoenix.

DANIEL D. VILLANI has received the annual Joseph Warren Barker Fellowship in Engineering offered by the New York based Research Corporation. Villani is doing post-graduate research on plasma propulsion at Princeton University. The fellowship carries a \$6,000 stipend and a \$2,000 gift to the chosen graduate school.

OBITUARY

1926
JAMES B. FRIAUF, PhD, on March 15. He had retired from the Navy in 1968 and was living in Arlington, Virginia.

Spectrum group scores success with Amphitryon

The Caltech-based Spectrum Productions company made its debut March 30 and 31 with "Amphitryon," a little-known Moliere comedy, translated from the French by Spectrum's organizer, Professor Oscar Mandel.

Ramo Auditorium was filled both nights, and the production was received so enthusiastically that the Faculty Committee on Programs (of which Mandel is a member) has given him the go-ahead to plan the group's theatrical activities for next season.

"We are negotiating for a play by Bertold Brecht," Mandel said. "If we are successful, our opening production next fall will be a real coup and, dramatically, a historically important event."

There are three productions planned for 1972-73, all of which will run for six performances. After the October 23-28 production, the group will start preparing for another to be presented February 5 through 10. This will be a double bill: Yeats' "Deirdre" and a play by Mandel, "The Monk Who Wouldn't."

Next April the producer expects to do an Ionesco play, "The Killer," which has been published but not presented by any theater group in this country so far, to his knowledge.

"There are many good plays published today," Mandel explained, "but very few theaters to present them. Most small theater groups around the country are inclined to play it safe in their selections."

Mandel says that if he ever finds himself playing it safe, he will give up the organization.

"We have the backing of the Faculty Committee and the interest of many members of the Caltech community to go ahead and do unusual plays of highest literary caliber—plays that you won't find elsewhere—acted and directed by paraprofessional people from the greater Los Angeles area."

The fact that next season's offerings are all 20th century writings is purely accidental. Mandel intends to put on a wide variety of material from writers of all countries and centuries, and even possibly something now being written by an unknown. The only criterion for Spectrum Productions is that the plays have high literary quality, are provocative, and definitely not run-of-the-mill.

ALUMNI ASSOCIATION OFFICERS AND DIRECTORS

PRESIDENT Reuben B. Moulton '57	SECRETARY Raymond L. Heacock '52
VICE PRESIDENT Arthur O. Spaulding '49	TREASURER George E. Solomon '50
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Stuart M. Butler '48	Wayne T. McMurray '45
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Coming events at Caltech

Saturday, May 6, 8 p.m. Ramo Annual Caltech Band Hunter Mead Memorial Concert. \$1.50; students, 75 cents.

Sunday, May 7, 8:15 p.m. Dabney Lounge CHAMBER MUSIC CONCERT: Roger Bobo (tuba), Ralph Grierson (piano), and "Group II," performing works by Gaillard, Dahl, Hindemith, William Kraft, and Fred Tackett. Free.

Tues. & Wed., May 9 & 10, 8 p.m. Ramo MASTERS AND MASTERWORKS FILM SERIES: *The Titan: Story of Michelangelo*. \$2.50.

Fri. & Sat., May 12 & 13, 8 p.m. Beckman CALTECH GLEE CLUB Home Concert. \$2.50; students, \$1.

Monday, May 15, 8:30 p.m. Beckman CALTECH LECTURE SERIES: "Sea Floor Spreading and Continental Drift: Manifestations of Planetary Evolution," Charles B. Archambeau, professor of geophysics, Caltech. Free.

Fri. & Sat., May 19 & 20, 8:30 p.m. Ramo ASCIT MUSICAL: *H.M.S. Pinafore*. \$2.50; students, \$1.50.

Saturday, May 20, 11 a.m. & 2 p.m. Beckman CHILDREN'S SERIES: The world as seen by Sam Hinton, folk singer, with his guitar, harmonica, etc. \$1.25; adults, \$1.75.

Sunday, May 21, 7:30 p.m. Beckman CANTOR ENSEMBLE, from Pasadena Jewish Temple, in an evening of liturgical, Yiddish, operatic, English classical, and popular music. \$5; students, \$2.50.

Sunday, May 21, 8:15 p.m. Dabney Lounge. CHAMBER MUSIC CONCERT: Cal Arts Woodwind Quartet will perform music by Telemann, Beethoven, Davidovsky, Berio, Miller, and Carter. Free.

Tues. & Wed., May 23 & 24, 8 p.m. Ramo MASTERS AND MASTERWORKS FILM SERIES: *Pablo Casals, Vivaldi's Venice*, and Igor Stravinsky. \$2.50.

Tues. & Wed., May 30 & 31, 8 p.m. Ramo MASTERS AND MASTERWORKS FILM SERIES: *Henry Miller Odyssey*. \$2.50.

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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:

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☐ An application for placement assistance

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CALTECH NEWS

Vol. 6, No. 4 May 1972

Issued nine times a year (Oct., Nov., Dec., Feb., Mar., Apr., May, June and July) and published by the California Institute of Technology and the Alumni Association, 1201 East California Blvd., Pasadena, California 91109.

Second class postage paid at Pasadena, California.

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