

**The first concrete of the Beckman Institute's foundations was ceremoniously poured on September 7. Caltech president Thomas E. Everhart lobbed a bottle of champagne into the hole, then the other participants tossed silver dollars into the wet concrete. Among those attending were (from left) Don Toy of A. C. Martin & Associates (the architects), Arnold and Mabel Beckman, and Everhart. The facility, due to open in 1989, will be devoted to interdisciplinary research in chemistry and biology.**



## *Honors and Awards*

George W. Housner, the Carl F Braun Professor of Engineering, Emeritus, received the National Medal of Science from President Reagan in a ceremony at the White House on July 15. Arnold O. Beckman, PhD '28 and a life trustee of Caltech's Board of Trustees, was honored with the National Medal of Technology at the same ceremony. The awards noted Housner's contributions to earthquake engineering and Beckman's to analytical instrument design.

Assistant Professors of Biology Howard Lipshitz and Paul Sternberg have been named Searle Scholars by the Chicago Community Trust. The two are studying various aspects of gene activity in embryos.

Rudolph Marcus, the Arthur Amos Noyes Professor of Chemistry, was given the Peter Debye Award in Physical Chemistry at a symposium held in his honor in June. The American Chemical Society (ACS) presented the award as part of the Third Chemical Conference of North America, held in Toronto, Canada. At the same conference, Professor of Chemistry Robert Grubbs was given the ACS Award in Organometallic

Chemistry, and William Goddard, the Charles and Mary Ferkel Professor of Chemistry and Applied Physics, received the ACS Award for Computers in Chemistry.

Gordon E. Moore, PhD '54 and a member of Caltech's Board of Trustees, has been given the 1988 Founders Award of the National Academy of Engineering for his role in developing large-scale integrated memory and the microprocessor.

The Office of Naval Research (ONR) has selected four Caltech faculty to be ONR Young Investigators for 1988. They are Assistant Professor of Chemical Engineering Frances Arnold, Associate Professor of Electrical Engineering John Doyle, Assistant Professor of Computational and Neural Systems Christof Koch, and Assistant Professor of Applied Physics Kerry Vahala. Only 15 investigators were chosen from a nationwide pool of 332 applicants.

The Associated Students of the California Institute of Technology (ASCIT) has honored six members of the Caltech faculty for their teaching excellence. They are Bruce Cain, professor of political science; Paul Patterson, professor of biology; Charles Peck, professor of physics; Thayer Scudder, professor of anthropology; Charles Seitz, professor of computer science; and Kerry Vahala, assistant professor of applied physics.

## Obituaries

W. Duncan Rannie (PhD '51), the Robert H. Goddard Professor of Jet Propulsion and professor of mechanical engineering, emeritus, died on August 13. Rannie first came to Caltech in 1938 to study under Theodore von Kármán. He joined Caltech's Jet Propulsion Laboratory in 1946 as chief of the Ramjet Section. He was appointed assistant professor of mechanical engineering in 1947, and became a full professor in 1955. He became emeritus in 1981. Rannie was known for his work in several branches of fluid mechanics, in particular the aerodynamics of turbomachines and heat exchangers. Rannie was 74.

William R. Smythe, professor of physics, emeritus, died July 6 at age 95. Smythe came to Caltech as a research fellow in 1923. He was named professor of physics in 1940 and became emeritus in 1964. He was the Head of the Special Ballistics Section of the Caltech Rocket Project from 1942 to 1945, where he developed a solar yaw camera to stabilize spinning rockets in flight. Smythe invented a method for separating isotopes of an element electromagnetically, and also solved various problems in eddy currents and electromagnetic theory.

David F. Welch, professor of engineering design, emeritus, died on July 2. Welch was 70. He worked for several large industrial firms before earning a professional degree in industrial design from Caltech in 1943. He joined the faculty as an instructor in industrial design and engineering drafting in 1947. By 1961, he was a full professor of engineering design, and became professor emeritus in 1987. During 1964-65, Welch went to Kanpur, India, with six other Caltech faculty and staff to help develop the curriculum for the Indian Institute of Technology campus there.

## What's Shaking?

Caltech plans to install a network of 10 high-tech, digital seismometers that will convert some 62,000 square miles of southern California into the world's largest scientific instrument. Dubbed the "Terrascope" by Don Anderson, professor of geophysics and director of the seismological laboratory, the network will stretch from San Luis Obispo to the Mexican border, and from the Channel Islands to the Nevada state line. The first unit has already been installed in Pasadena's San Rafael Hills. These seismometers will have a dynamic range 10,000 times that of conventional ones, allowing them to record big quakes without going off scale, while still being sensitive enough to pick up the 20 to 30 tiny tremors that jiggle California every day. The instruments will also be able to detect long-period vibrations outside the ken of ordinary ones, an advance Anderson likens to the onset of radio astronomy in the scope of new phenomena that are likely to be revealed. The units will be linked by satellite to high-speed computers on campus, and via the Global Positioning Satellites, will be able to track L. A.'s journey to Alaska. Network data can also be used to construct detailed three-dimensional pictures of the earth's interior ("Interesting Times in Geophysics" *E&S*, Spring 1988). The network will cost about \$4.2 million.

**An 80,000-mile-high solar flare erupted at 1:37 PM PDT on July 25. The flare, 10 times the earth's diameter in length, was the largest in 4 years and lasted for nearly 2 hours. Solar flares are explosive releases of luminous gas, charged particles, and x-rays. Their effects on earth include the aurora borealis and disrupted radio communications. The photograph was taken at Caltech's Big Bear Solar Observatory by Harold Zirin, professor of astrophysics and director of the observatory.**

