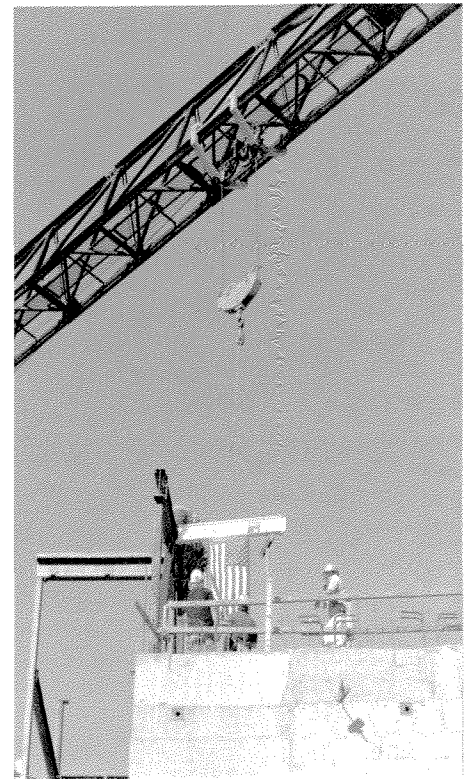


# Random Walk

**During the traditional topping-out ceremony on December 7, Board of Trustees Chair Gordon Moore and President Tom Everhart watch as the highest beam is set on the Moore Laboratory of Engineering. Gordon and Betty Moore gave \$16.8 million for the building.**



## *New NSF Center in Biomechanics to Collaborate with Industry*

The newly established Center for Neuromorphic Systems Engineering, established at Caltech with a five-year, \$11-million grant from the National Science Foundation, will promote the design and development of “biological machines,” devices that possess human-like senses. The new center has been funded through the NSF’s Engineering Research Center (ERC) program, which was established in 1985 to link engineering and scientific endeavors in areas where fundamental engineering advances would enhance U. S. competitiveness. Researchers at ERC centers work closely with their counterparts in business and industry to help turn basic research and technological advances into industrial applications. Caltech’s center has also received \$500,000 from the California Agency for Trade and Commerce.

Under the direction of Professor of Electrical Engineering Ron Goodman, the Center for Neuromorphic Systems Engineering will build on a unique multidisciplinary research program in computation and neural systems that has been under way for nearly a decade. Researchers from biology, engineering, computer science, and several of the

applied sciences have collaborated on developing such devices as a silicon retina and a silicon “ear,” as well as “intelligent skin” that can monitor and react to the air flow over an airplane’s wing. Close to 50 researchers, including as many as 30 graduate students, will work in association with the center, whose headquarters will be located in the new Moore Laboratory of Engineering (see above). Caltech will seek out five major industrial collaborators from automotive manufacturing, chemical processing, telecommunications, general manufacturing, and consumer electronics; some 30 to 40 other companies are also expected to sign on as partners.

## *Honors and Awards*

The 1994 ASCIT (Associated Students of Caltech) Teaching Awards were presented to Cheryl Anderson, teaching assistant in chemical engineering; Erick Carreira, assistant professor of

chemistry; John Elwood, teaching assistant in physics; Steven Frautschi, professor of theoretical physics; Melany Hunt, assistant professor of mechanical engineering; Julia Kornfield, assistant professor of chemical engineering; Tsutomu Ohshima, karate instructor; and P. P. Vaidyanathan, professor of electrical engineering.

The Graduate Student Council awarded its 1994 GSC Teaching Awards to Norman Brooks, the Irvine Professor of Environmental and Civil Engineering; Barbara Imperiali, assistant professor of chemistry; Gary Lorden, professor of mathematics and vice president for student affairs; Scott Page, assistant professor of economics; and Paul Sternberg, associate professor of biology.

Tom Ahrens, professor of geophysics, will receive the 1995 Shock Compression Science Award this August from the American Physical Society’s Topical Group on Shock Compression of Condensed Matter.

John Brady, professor of chemical engineering, has been elected to fellowship in the American Physical Society.

John Carlstrom, associate professor of astronomy, has won a Fellowship in

# Random Walk continued

Science and Engineering from the David and Lucile Packard Foundation. The fellowship provides \$100,000 per year for five years.

Robert Grubbs, the Atkins Professor of Chemistry, has been named a recipient of the 1995 American Chemical Society Award in Polymer Chemistry, an award sponsored by the Mobil Chemical Company.

Jeff Kimble, professor of physics, has been named a Distinguished Traveling Lecturer by the Laser Topical Group of the American Physical Society.

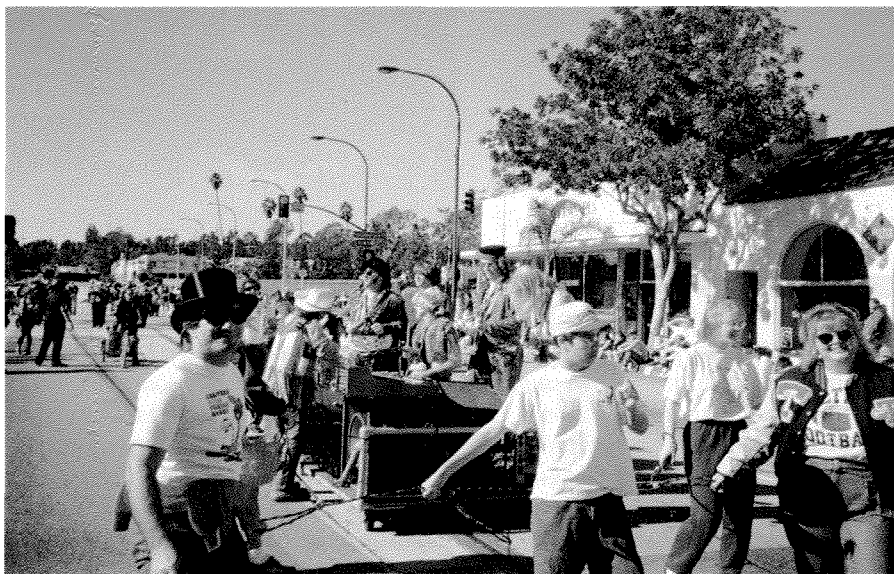
Mark Konishi, the Bing Professor of Behavioral Biology, has been honored by the Acoustical Society of America with its Science Writing Award for an article that appeared in the April 1993 *Scientific American*.

Fredric Raichlen, professor of civil engineering, has received the 1994 John G. Moffatt–Frank E. Nichol Harbor and Coastal Engineering Award at a meeting of the American Society of Civil Engineers.

Kip Thorne, the Feynman Professor of Theoretical Physics, won a Phi Beta Kappa Award in Science for outstanding contributions to the literature of science. Thorne's book, *Black Holes and Time Warps: Einstein's Outrageous Legacy*, which earned him the reward, was reviewed in the Summer 1994 issue of *E&S*.

James Westphal, professor of planetary science and director of Palomar Observatory, has been selected as the 1995 recipient of the Space Science Award, given by the American Institute of Aeronautics and Astronautics, for his leadership in the development of the Wide Field/Planetary Camera on the Hubble Telescope.

**A top-hatted Nate Lewis helps provide non-fusion-based motive power as random members of the Caltech community pull Dread Zeppelin, a band fronted by an Elvis impersonator in a camouflage-patterned jumpsuit and cape, through the streets of Old Pasadena in this year's Doo-Dah Parade, an annual spoof of the Rose Parade.**



## *Caltech Makes Many Top-10 Lists, Academic and Financial*

Caltech ranks high in the November/December issue of *Science Watch: Tracking Trends and Performance in Basic Research*, which lists the top 10 "highest impact" U.S. universities in the physical sciences. The publication of the Institute for Scientific Information based its rankings on citations-per-paper from 1981 to 1993. Caltech was ranked second in chemistry and materials science, third in geosciences, fifth in engineering, sixth in physics, eighth (with JPL) in astrophysics, and tenth in mathematics. Harvard took first place in four of the categories (physics, chemistry, geosciences, and astrophysics); Caltech outranked MIT in five

categories (physics, chemistry, astrophysics, engineering, and materials science), but MIT was rated higher in geosciences, mathematics, and computer science.

In other rankings, *Money* magazine's "College Value Rankings" called Caltech the best buy of any scientific or technical school in the nation and the eighth-best buy in education overall. *U.S. News and World Report* recently placed Caltech seventh among its "Top 10 National Universities." And the Council for Aid to Education announced that Caltech had raised more donations in dollars per student in 1993 than any other institution of higher education in the country.