

the program unique was that the students wrote their own research proposals and, at summer's end, presented papers on their work. (These papers often go on to appear in scientific journals, providing many undergrads with their first professional publications.) Cole greatly expanded SURF's scope in 1983, when he opened the door for students to work at JPL. Says Merkel, "With his usual enthusiasm, Terry became SURF's advocate. We were a fledgling program, and few people were aware of what we were trying to do. Terry fired the imaginations of faculty and JPL staff who hadn't yet participated. He talked convincingly to administrators whose support we needed. He excelled at explaining technology to laymen, and he was great with donors. He was an outstanding emcee, enlivening any SURF event with stories and easy humor, and he was as comfortable talking about art and literature as he was about science and technology. He was a master of aphorism, succinctly stating SURF's philosophy: 'no intellectual bottle-washing.' He would remind donors and mentors alike that 'money is the sin-

cerest form of commitment.'" In 1989, he became chair of the SURF Administrative Committee—a position he held for the rest of his life. Under his leadership, 1,525 students have SURFed, roughly a quarter of them at JPL. More than half of Caltech's undergrads now SURF for at least one summer, and the program has spawned many imitators elsewhere.

"Terry had a passion for helping young people build a better world," says Shair. This showed not only in the SURF program but at JPL, where he founded the Telescopes in Education program, in which a 24-inch telescope at the Mount Wilson Observatory is available over the Internet for use by K–12 students around the world.

Says Chahine, "Terry's first goal at JPL was developing our intellectual capabilities. He had the connections in industry—at Ford and elsewhere—and in the universities to get people to come to JPL who otherwise wouldn't have. He brought in lots of talented people, especially as postdocs." Many of these young scientists stayed to become lifelong friends.

"He was an advisor, mentor, and problem-solver to

everybody who sought his help, from postdoc to senior scientist," says Chahine. Merkel agrees. "If you ever needed an idea, you could call Terry. It didn't matter what kind of an idea—a mentor for a student with a particular interest, a fund-raising event, or a keynote speaker for a conference."

Cole battled prostate cancer the way he did everything else, says Chahine—he threw himself into it. "He studied it and understood it. Several colleagues who also had it relied on him for help, information, and support; sometimes several people at the same time. His knowledge and advice were invaluable. He helped others through, even as he was struggling to keep afloat himself. They say, first you help yourself, then you help others. Terry didn't do that."

A memorial service was held at Caltech's Athenaeum on October 22. Memorial contributions can be made to the SURF program, care of Carolyn Merkel, Caltech mail code 139-74, Pasadena, CA 91125; or to the Prostate Cancer Research Fund at USC-Norris Hospital, 1441 Eastlake Ave., Room 8302, Los Angeles, CA 90033. □

HONORS AND AWARDS

Jacqueline Barton, the Hanisch Memorial Professor and professor of chemistry, has been elected a member of the American Philosophical Society "for her achievements in science." She has also received the 1999 G. M. Kosolapoff Award for Scientific Distinction from Auburn University.

Roger Blandford, the Tolman Professor of Theoretical Astrophysics, has received the Royal Astronomical Society's Eddington Medal for Theoretical Astronomy.

Professor of Literature, Emeritus, *Kent Clark's* "influence on the lives of many generations of Caltech undergraduates" has been recognized through the establishment of the J. Kent Clark SURF Endowment, which will support one student in the humanities each summer, in perpetuity.

Mark Davis, the Schlinger Professor of Chemical Engineering, has won the American Institute of Chemical Engineers' 1999 Professional Progress Award.

Peter Dervan, the Bren Professor of Chemistry, has been selected by the Oregon, Portland and Puget Sound Sections of the American Chemical Society to receive the 1999 Linus Pauling Medal, which "recognizes

Cole was an accomplished nature photographer.



HONORS AND AWARDS (CONTINUED)

outstanding accomplishments in chemistry in the spirit of and in honor of Linus Pauling." In addition, Harvard University has chosen Dervan to be its 1999 Max Tishler Prize Lecturer.

Professor of Chemistry *Dennis Dougherty*, who is also executive officer for chemistry, has been elected a Fellow of the American Academy of Arts and Sciences.

The 1999 teaching awards of the Associated Students of Caltech (ASCIT) have gone to *Peter Goldreich*, the Dubridge Professor of Astrophysics and Planetary Physics; *Robert McEliece*, the Puckett Professor and Professor of Electrical Engineering; *Daniel Meiron*, professor of applied mathematics; *E. Sterl Phinney*, professor of theoretical astrophysics; and *Beena Khurana*, visiting assistant professor of psychology. Recipients of honorable mentions are *Marianne Bronner-Fraser*, professor of biology; *Kip Thorne*, the Feynman Professor of Theoretical Physics; *Sara Lippincott*, lecturer in creative writing; and *Michael Shumate*, instructor in applied physics.

Recipients of the 1999 Graduate Student Council teaching and mentoring awards are, for excellence in teaching, Professor of Applied Mechanics *Stephen Wiggins* and, for excellence in mentoring, Professor of Chemical Physics *Aron Kuppermann*.

Professor of Economics and Social Sciences *John Ledyard*, chair of the Division of Humanities and Social Sciences, has been elected a fellow of the American Academy of Arts and Sciences "in recognition of distinguished contributions to his profession."

Assistant Professor of Chemistry *Jonas Peters* has

received the 1999 Camille and Henry Dreyfus New Faculty Award.

Kip Thorne, the Feynman Professor of Theoretical Physics, has been elected a member of the American Philosophical Society, and a foreign member of the Russian Academy of Sciences.



David Tirrell

medicine and a better understanding of the ways in which materials are made in nature.

Before coming to Caltech, Tirrell was director of the National Science Foundation Materials Research Science and Engineering Center at the University of Massachusetts, where he was also the Barrett Professor of Polymer Science and Engineering. He earned a master's and Ph.D. in polymer science and engineering from the University of Massachusetts in 1976 and 1978, respectively. His bachelor's degree in chemistry (1974) is from MIT.

As *E&S* went to press, the Royal Swedish Academy of Sciences awarded Ahmed Zewail, the Pauling Professor of Chemical Physics and professor of physics, the Nobel Prize for chemistry. Zewail pioneered the field of femo chemistry, which uses ultrafast laser pulses to watch chemical reactions as they happen. Look for the full story in the next issue.



NEW DIVISION CHAIR

David Tirrell, the Ross McCollum-William H. Corcoran Professor and professor of chemistry and chemical engineering since 1998, has been named chair of the Division of Chemistry and Chemical Engineering, succeeding Peter Dervan, the Bren Professor of Chemistry.

Tirrell's research focuses on connections between materials science and the biological sciences. His specific interests include the preparation of new materials for application in biology and

NEW DIRECTOR FOR ALUMNI ASSOCIATION

Andrew (Andy) Shaindlin has been named executive director of Caltech's Alumni Association, succeeding Judy Amis, who retired last year.

Shaindlin comes to Caltech from the University of Michigan, where, since 1996, he served as director of alumni education and then senior



Andy Shaindlin

director of alumni programs. He was responsible for directing one of the nation's largest alumni travel programs, overseeing the new Alumni Career Center, and administering the Alumni University education program.

From 1989 to 1996 Shaindlin served as associate director, and before that as assistant director, of alumni relations at Brown University where he had earned his BA in international relations in 1986. He also held various posts with the Princeton Review from 1987 to 1989, including director of the Princeton Review of Long Island.

His achievements include establishing two Internet discussion forums for alumni professionals, as well as publishing a number of articles