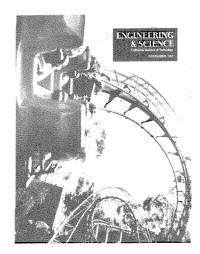
# In This Issue



#### Circular Motion

On the cover — a participant's view of a ride on the Corkscrew at Knott's Berry Farm. This kind of visceral experience with what it means to go around in circles is the take-home lesson for Program 9 of Caltech's venture into educational television. For more, see "Physics on the Tube," which begins on page 14.

## Then and Now

For 35 years the Hale Telescope at Palomar has been one of the world's leading astronomical instruments, though activities at the observatory have changed a lot in that time. "A Night on Palomar Mountain — 1983," which begins on page 10, describes some of the current research. For contrast it is accompanied by some quotations from the first "A Night on Palomar Mountain," published in *E&S* in 1969.

The author of the 1969 article



was Jesse Greenstein, now Lee A. DuBridge Professor of Astrophysics, Emeritus.

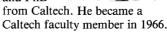
The author of the second is John Gustafson, who spent the summer at Palomar as an intern in science writing. His assignments there included writing news releases, revising copy for a Palomar

Palomar booklet, and completing this article for the magazine. Gustafson has a BS in astronomy from the University of Arizona and an MA in astronomy and astrophysics from UC Santa Cruz, where he also earned a graduate certificate in science writing. He is currently a publicist for the Lick Observatory.

## Earthquake Engineering

The expertise of some of Caltech's engineering faculty about the effects of earthquakes on structures is well known. So it was natural to seek out one of them after the Coalinga earthquake of last May. Paul Jennings, professor of civil engineering and applied mechanics, visited Coalinga the day after the quake, and he was interviewed by Dennis Meredith, director of the News Bureau, to find out the state of the town. "Lessons from the Coalinga Earthquake," which begins on page 6, is the result of that interview.

Jennings has a BS in civil engineering from Colorado State University and an MS and PhD



He has studied structural damage from major earthquakes all over the world and has served on numerous panels and advisory boards on that subject, including the Earthquake Engineering Research Council and the National Research Council Committee on Natural Disasters. He is editor of reports on the Alaskan earthquake of 1964 and of the San Fernando earthquake of 1971, and he consults on the design of high-rise buildings, offshore drilling towers, and nuclear power plants.

#### Statement of Ownership

Statement of ownership, management, and circulation (required by 39 U.S.C. 3685). 1. Title of publication: Engineering & Science. A. Publication no.: 00137812. Date of filing: September 13, 1983, 3. Frequency of issues 5 times a year. A. No. of issues published annually: 5. Annual subscription price: \$7.50. 4. Complete mailing address of known office of publication: 1201 East California Blvd., Pasadena, Los Angeles County, California Blvd., Pasadena, Chaptic Business offices of the publishers: Same as above, Public Relations Building, 6. Full names and complete mailing address of publisher, editor, and managing editor: Publisher, Alumni Association, California Institute of Technology, 1201 East California Blvd., Pasadena, CA 91125; Editor, Jacquelyn Bonner, California Institute of Technology, Pasadena, CA 91125; Managing Editor, Jane Dietrich, California Institute of Technology, Pasadena, CA 91125. Nower: Alumni Association, California Institute of Technology, Pasadena, CA 91125. R. Known bond-holders, mortgages, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages or other securities: none. 9. The purpose, function, and nonprofit status of this organization and the exempt status for rederal income tax purposes has not changed during preceding 12 months. 10. Extent and nature of circulation: A. Total no. of copies printed: average during preceding 12 months, 14,600; actual number of latest issue, 1,800. C. Total paid circulation: average during preceding 12 months, 6,522; actual number of latest issue, 6,850. C. Total paid circulation: average during preceding 12 months, 14,180; actual number of latest issue, 14,800. C. Total paid circulation: average during preceding 12 months, 14,180; actual number of latest issue, 14,800. Total number of latest issue, 14,800. C. Total paid circulation: average during preceding 12 months,

STAFF: Editor: — Jacquelyn Bonner Managing Editor — Jane Dietrich Photographer — Robert Paz

PICTURE CREDITS: Cover, 10, 14-17, 32 — Robert Paz/6-9 — John Hall, Paul Jennings, Garrett Jeong, John Wilson/11, 13 — Arnold Johnson/12 — Earthlight Photography, San Diego/15-16 — Don Delson/18 — Richard Kee/20 — Nolan Patterson/22 — Floyd Clark/32 — NASA

Engineering & Science (ISSN 0013-7812) is published five times a year, September, November, January, March, and May, at the California Institute of Technology, 1201 East California Boulevard, Pasadena, California 91125. Annual subscription \$7.50 domestic, \$15.00 foreign, \$20.00 foreign air mail, single copies \$1.50. Controlled Circulation postage paid at Pasadena, California. All rights reserved. Reproduction of material contained herein forbidden without authorization. ©1983 Alumni Association California Institute of Technology. Published by the California Institute of Technology and the Alumni Association. Postmaster: Send change of address to Caltech, 1-71, Pasadena, CA 91125.