

# THE MONTH AT CALTECH

## Computer Symposium

■ ON MAY 12 more than 50 scientists attended a symposium at the Institute on the use of the Analog Computer for preconstruction tests of aircraft and guided missiles. The 33,000-pound computer, which has been in use for three years, is now able to check the design of a new plane from conception to completion.

Many problems, heretofore too complicated to be tackled at all, can be resolved by the big Electric Analog Computer in a relatively short time. It is especially useful for tackling structural, aeroelastic and control problems of aircraft. It can, for instance, determine in advance how an airplane wing will react—in whole or any part of it—under all types of forces. A complete analysis of wing flutter can be made, showing at what speeds it can be expected to occur, and what will happen if it does occur at that speed; what the stresses and strains will be on a wing or fuselage under all kinds of conditions; what shocks the landing gear can take; how the controls of a plane will react to varying conditions.

For the past two years the computer has been used by nearly all the Southern California aircraft companies for this type of analytical work. In fact, though the computer has been doubled in size since it first went into operation, it has been too busy to take on all the problems which have been submitted. In addition to the Institute—and the Jet Propulsion Laboratory, which uses it for analyses of guided missiles—the computer has been working for the Douglas, North American, Lockheed and Hughes Aircraft Companies; Langley Field, the Naval Ordnance Test Station, the Pullman Standard Car Company, and the Navy Bureau of Ships, among others.

## AIEE

■ CALTECH MEN AND MACHINES were the focal point of the American Institute of Electrical Engineers' convention held at the Hotel Huntington from June 12-16—the largest convention, by the way, to be held in Pasadena since the war.

Dr. Royal W. Sorensen, past national president of the A.I.E.E., delivered the address of welcome. Dr. Carl D. Anderson, Professor of Physics, delivered an address on cloud chamber studies of cosmic rays; Dr. Paul Epstein, Professor of Theoretical Physics, spoke on the life of Oliver Heaviside; Bart Locanthi, Electronics Engineer in the Analysis Laboratory, Dr. G. D. McCann, Professor of Electrical Engineering, and R. H. McNeal, EE Instructor discussed the Institute's Analog Computer.

Special features of the convention were a high voltage demonstration in the Institute's EE Laboratory and a high velocity water tunnel demonstration in the Hydrodynamics Laboratory.

## On Leave

■ AT THE REQUEST of Gordon P. Larson, Director of the Los Angeles Air Pollution Control District, Dr. A. J. Haagen-Smit, Professor of Bio-Organic Chemistry, was granted a year's leave of absence from the Caltech faculty last month to carry on advanced research on smog for Los Angeles County.



*Class of '50*

Dr. Haagen-Smit, whose research last year identified the eye-irritants in smog as organic peroxides (E & S—March '49), will be assisted in this new project by three scientists from the Air Pollution Control District and five other scientists loaned by the U. S. Bureau of Mines. His job: to find out what smog is.

## Promotions

■ PRESIDENT DUBRIDGE last month announced the promotion of 11 members of the Institute faculty, by action of the Board of Trustees.

Promoted from Associate Professor to Professor: Albert Tyler, Embryology; Dan Campbell, Immunology; Verner Schomaker, Chemistry; Robert Christy, Theoretical Physics.

Promoted from Assistant to Associate Professor: Thomas Lauritsen, Physics; Leverett Davis, Theoretical Physics; H. N. Tyson, Mechanical Engineering.

Promoted from Instructor to Assistant Professor: J. Kent Clark, English; Lester McCrery, English and Public Speaking; R. H. McNeal, Electrical Engineering; Rolf Sabersky, Mechanical Engineering.

## New Comet

■ A NEW COMET, too far away to be seen with the naked eye, was discovered last month by Dr. Rudolph Minkowski and Robert G. Harrington of the Mt. Wilson and Palomar Observatories. It was photographed by the 48-inch Schmidt camera on May 19, but was not noticed until the scientists studied the photographic plates later.

The new comet is in the constellation of Ophiuchus and is an 8th magnitude object. The faintest stars that can be seen with the naked eye are about 6th magnitude. Dr. Minkowski estimates that the comet is farther away from the earth than the sun is—which means it may be

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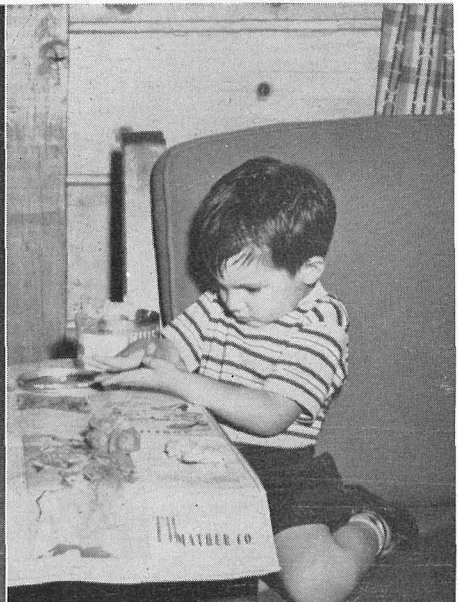


*President DuBridge delivers the Commencement Address*

## 1950 Commencement

In all, 409 students received degrees from the Institute at the 1950 Commencement on June 9—185 received Bachelor of Science degrees, 130 Master of Science, 24 Engineer's Degrees and 70 Doctor of Philosophy. The 70 Ph.D. degrees is the greatest number ever conferred at a Caltech Commencement.

James R. Page, Chairman of the Board of Trustees, presided, and the Reverend Curtis Beach of the Pasadena Neighborhood Church gave the Chaplain's Address. President DuBridge delivered the Commencement Address, "The Fight for Freedom," which appears in full on pages 3-5.



*During ceremonies Women's Club set up this nursery in Throop Club for children of students receiving degrees.*

## THE MONTH - CONTINUED

more than 93,000,000 miles away. This is the second comet to be reported by the National Geographic Society-Palomar Observatory Sky Survey which was started last summer. The first comet—in the constellation of Pisces—was discovered in November 1949.

### Board Member

■ DR. FRITZ ZWICKY, Professor of Astrophysics and member of the Mt. Wilson and Palomar Observatories staff, has been appointed a member of the Board of Trustees of the Pestalozzi Foundation of America.

The Pestalozzi World Foundation was founded in 1942 by H. C. Honegger, a music box manufacturer. Named in honor of Johann Heinrich Pestalozzi, 18th century Swiss philosopher and educator, it is a charitable organization devoted entirely to assisting children. It has branches throughout the world today, and Pestalozzi villages where orphans and other children are given haven.

In this country the foundation supports such things as polio clinics, children's wards in hospitals, boys' camps, Navajo Indian children, etc. Closely paralleling the Red Cross in organization, the foundation depends entirely on donations—in cash, food, materials and labor.

### Improvement

■ ANNOUNCEMENT WAS MADE at Commencement of a \$150,000 grant by the Carnegie Corporation to the Institute, to be used during the next five years to improve undergraduate instruction in the humanities and social sciences.

### Guggenheim Awards

■ LAST YEAR the Institute's new (1948) Daniel and Florence Guggenheim Jet Propulsion Center granted three graduate fellowships. This year the number has been doubled. 1950-51 fellowship awards went last month to Thomas C. Adamson, Jr. of LaGrange, Illinois; Eldon L. Knuth of Luana, Iowa; Robert V. Meghreblian of Los Angeles; Joseph E. Padgett, Jr. of Baltimore, Maryland; David E. Shonerd of Pasadena; and Edward E. Zukoski of Birmingham, Alabama.

Meghreblian is a second-time winner; he already holds a 1949-50 fellowship. A native of Cairo, Egypt, he left the Institute's Jet Propulsion Laboratory last year to accept the new Guggenheim fellowship at Caltech.

Adamson, a graduate of Purdue University, is currently a part-time employee of the Institute's Guggenheim Laboratory of Aeronautics. Shonerd, Caltech '43, is now an engineering analyst at the Institute's Jet Propulsion Laboratory. Knuth, a graduate of Purdue, is now working for his M.S. in Aeronautical Engineering at that university. Padgett, a graduate of Johns Hopkins, did graduate work at the Universities of Pittsburgh and Pennsylvania, and has been working in the Aviation Gas Turbine Division of the Westinghouse Electric Corp. Zukoski will be graduated from Harvard this spring.

### Stanolind Fellow

■ ROBERT L. NELSON, graduate student in geology, was awarded the Stanolind Oil and Gas Company fellowship at the Institute for 1950-51. A graduate of Williams College, Nelson received his M.S. in Geophysics from

the Institute this month, is working toward a doctorate.

The Stanolind fellowship includes a grant of \$1250 plus tuition and laboratory fees. Caltech is one of ten colleges in the country at which these scholarships have been established, and this is the fourth consecutive year the fellowship has been made available here. Others who have held it are S. T. Martner, who obtained his doctorate in 1949; and (for two years) M. E. Denson, Jr., who received his doctorate in geophysics this spring.

### Hinrichs Award

■ RALPH LOVBERG was named winner of the Frederic W. Hinrichs Memorial Award at the 1950 commencement exercises this month. The award, named in honor of Dean Hinrichs — dean of upperclassmen at the Institute from 1923 until his death in 1944 — is made annually to a member of the senior class on the basis of leadership, responsibility and contribution to the welfare of the student body.

Lovberg was president of the student body this year. He has served as an officer of his student house, as student body publicity manager, photographic editor of the *Big T*, and photographer for *E & S*. He was class president in his freshman year, was awarded an Honor Key in his senior year, and was graduated this month with honors.

### ASCIT Awards

■ AT THE ASCIT's Annual Awards Assembly on May 26 Honor Keys went to 21 students in recognition of their participation in extracurricular activities. Oliver Gardner, Ulrich Merten, Michael Sellen and Charles Steese received keys for the second year. First-time winners included C. James Blom, William Cox, Carl Fox, William Freed, James Hendrickson, Richard Libbey, David MacKenzie, Anthony Malanoski, Leon Michaelson, Robert Parnes, Noel Reed, Donald Royce, Bert Snider, Bruce Stowe, Jesse Weil and Stanley Groner.

Winner of the Tau Beta Pi Award as outstanding freshman: James LaTourette, this year's freshman class president who has been elected president of the sophomore class for next year.

Winners of the Alumni Baseball Trophy: Richard Y. Karasawa and Norman E. Gray. The Scott Tennis Trophy went to Palmer Smith; the novice award to Howard Preston.

Dabney House took the Goldworthy Interhouse Scholarship Trophy and the Ski Club Trophy, while the Interhouse Sportsmanship and Varsity Rating trophies went to Fleming House.

### Math Award

■ A THREE-MAN TEAM of Caltech undergraduate mathematics students—Julian Brody, Herbert Forrester and Richard Pierce, all seniors—was the winner of this year's William Lowell Putnam Mathematics Competition. The contest, which is open to all colleges and universities in the United States and Canada, is supported by the Putnam Intercollegiate Memorial Fund under the auspices of the Mathematical Association of America.

### Taubete Elections

■ SEMI-ANNUAL ELECTIONS of Tau Beta Pi last month took in Senior James Hendrickson; Juniors John Bjerlie, Edward Davis, Franklin Goodman, John Holmes, James Ibers, John Johnston, Thomas Layton, James McQuiston, John Rogers, Edward Stern, George Trilling, William Wright.



## Associates' Day

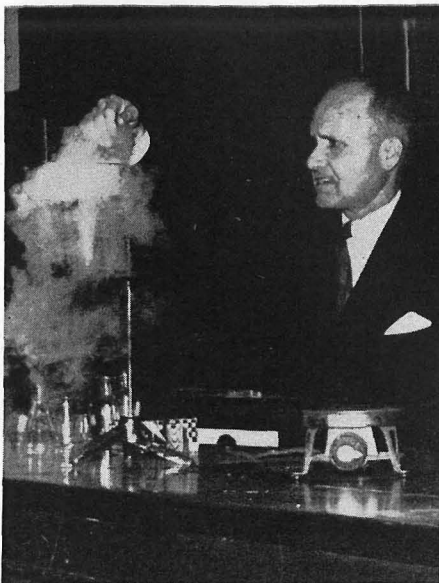
■ ON SATURDAY, MAY 20 some 150 California Institute Associates—prominent local citizens who each contribute \$1,000 a year to the Institute's support—visited the campus for the second annual Associates' Day.

President DuBridge and James R. Page, Chairman of the Board of Trustees, welcomed the Associates at a buffet luncheon in Dabney Garden. The full-afternoon program began with a series of talks in Kerckhoff, where Dr. Max Delbruck showed motion pictures of Institute research on bacteriophage; Dr. Frits Went described work in progress in the Earhart Plant Laboratory; and Dr. Linus Pauling spoke on proteins and enzymes. A second series of talks, in Arms, was given by Dr. A. E. J. Engel, who showed colored slides made from rock sections; Dr. Carl Anderson, who discussed the newly-discovered elementary particles (E & S—May '50); and Dr. Ira S. Bowen, who presented some of the recent pictures from Palomar.

Following the talks, the visitors had their choice of a laboratory tour, Dean Watson's justly-famous liquid air demonstration, or Dr. Royal W. Sorensen's equally-justly-famous high voltage show. A tour of Fleming House and tea at the Athenaeum completed the day.



*Young visitor undergoes a hair-raising experience in Fleming House, while testing the powers of home-made Van de Graaff generator which students had on display*



*Dean Watson shoots the works in his spectacular liquid-air demonstration*