Richard P. Feynman

THE MONTH AT CALTECH

Einstein Award

DR. RICHARD P. FEYNMAN, professor of theoretical physics, was named winner last month of the Albert Einstein Award. The award, consisting of a $15,000 cash prize and a gold medal, is made every three years for an outstanding contribution to knowledge in the mathematical and physical sciences.

Dr. Feynman is widely known for his quantum theory of electricity and magnetism, which resolved the difficulties and inaccuracies inherent in early theories of quantum electrodynamics dealing with the interaction of atoms with radiation fields. In the last year or so he has been working on a theory of liquid helium.

The Albert Einstein Award, one of the highest honors in science, was established on March 14, 1949, on the seventieth birthday of Dr. Einstein, by Lewis Strauss, chairman of the Board of Trustees of the Institute for Advanced Study and chairman of the U. S. Atomic Energy Commission. It was first awarded in 1951 to Professors Kurt Godel of the Institute for Advanced Study at Princeton, and Julian Schwinger of Harvard University. Selection of the winner is made by a committee of the Institute for Advanced Study, which administers the award.

Dr. Feynman is the first to win the award alone. An M.I.T. graduate (1939), he received his PhD from Princeton in 1942. During the war he worked on the Manhattan District atom bomb project at Los Alamos, and in 1945 became associate professor of theoretical physics at Cornell University. He joined the Caltech staff in 1950.

Dean of the Faculty

PROFESSOR ROBERT F. BACHER, chairman of the Division of Physics, Mathematics and Astronomy, has been named dean of the faculty, to serve during the absence of Dean E. C. Watson, professor of physics, who is on a year's leave in Europe.

Dr. Bacher came to Caltech from the U. S. Atomic Energy Commission in 1949. One of the country's leading physicists, Dr. Bacher was professor of physics at Cornell University before the war. In 1941 he joined the Radiation Laboratory at M.I.T., which was headed by Dr. L. A. DuBridge. In 1943 he was released to become chairman of the bomb physics division of the Los Alamos Laboratory. He returned to Cornell at the end of the war, as professor of physics and director of the Laboratory of Nuclear Studies, until he was called to serve on the Atomic Energy Commission in 1946.

Dean Watson is on his first extended leave in 35 years. He came to Caltech as an assistant professor in 1919, became professor of physics in 1930 and dean of the faculty in 1945. After a quarter-century as right-hand man of Dr. Robert A. Millikan, he served first as acting chairman and then as chairman of the physics division from 1946 to 1949, when Dr. Bacher succeeded him.

ACS Awards

THE AMERICAN CHEMICAL SOCIETY, at its 125th national meeting in Kansas City last month, honored Caltech scientists with two awards. Dr. John D. Roberts, profes-

sor of organic chemistry, received the $1,000 ACS Award in Pure Chemistry, and Dr. Harvey A. Itano, senior research fellow, received the $1,000 Eli Lilly and Company Award in Biological Chemistry.

This is the second year in ACS history that two staff members of the same school have received national awards. In 1950 Dr. Verner Schomaker, professor of chemistry, received the Award in Pure Chemistry, and Dr. A. J. Haagen-Smit, professor of bio-chemistry, received the Fritzche Award.

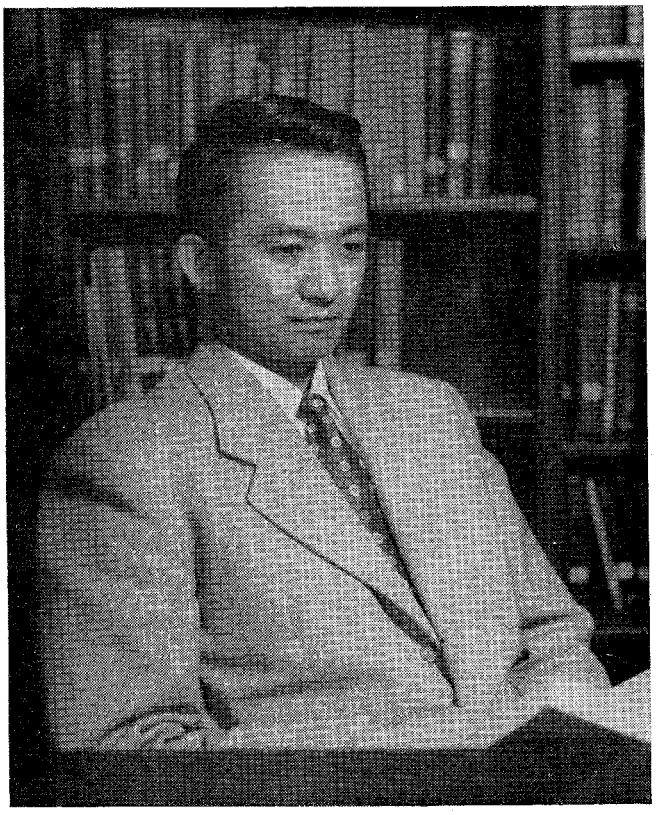
Dr. Roberts is an outstanding researcher in the chemistry of organic compounds. His experimental and theoretical investigations, particularly with the use of radioactive tracers, have added much to the understanding of how carbon-containing compounds react.

Dr. Itano is a senior research fellow at Caltech under assignment by the U. S. Public Health Service, which he serves in a research capacity as a senior assistant surgeon. His investigations of hemoglobin have been cited as bringing medical science its first precise molecular interpretation of a disease (sickle cell anemia), and this work is considered a start on understanding physical and chemical processes basic to diseases.

John D. Roberts

Deep Quake

ALL EARTHQUAKES are more or less unexpected, but some are exceptionally so. Perhaps the most surprising earthquake of recent years occurred on March 29, 1954. It was felt over a wide area in western Europe, with some damage occurring in regions of southern Spain.



Harvey A. Itano

Workers at the Caltech Seismological Laboratory were startled to find that they had recorded an earthquake of major magnitude (about 7¼) originating at about the right distance for Spain, but at a depth of over 600 kilometers.

Shocks of this kind write very complicated seismograms, so there was room for other interpretations, but within a few days confirmation was received via the internationally organized exchange of data. The epicenter of this extraordinary shock was in the Sierra Nevada (the original one in southern Spain, after which the California range was named).

Up to 1954, shocks originating at such depths were known only from the regions surrounding the Pacific Ocean, including the East Indies. And theorists had even developed far-reaching patterns of forces and movements in the earth's interior which "explain" why the earthquake-producing stresses extend to the 600-kilometer level only in the Pacific region. The recent quake under spain, at the 600-kilometer level, means that a good many of these carefully constructed theories will have to be reappraised.

Dr. Beno Gutenberg, director of the Seismological Laboratory, and Dr. Charles Richter, Professor of Seismology, had just completed final proofreading on a second, revised edition of their compendium, *Seismicity of the Earth*, when the quake came. An airmail addendum went off to the press—but if the quake had happened sooner, there would have been a good many changes of language scattered through the text.