

THE MONTH AT CALTECH

New Physics Chairman

Dr. Robert F. Bacher, 43, resigned from the U. S. Atomic Energy Commission last month to become Professor of Physics and Chairman of the Division of Physics, Mathematics, and Astronomy at Caltech. He succeeds Prof. Earnest C. Watson, who for three years has carried a double administrative load as Chairman of the Division of Physics and as Dean of the Faculty.

Dr. Bacher will also carry the title of Director of the Norman Bridge Laboratory of Physics, succeeding Dr. R. A. Millikan, who held the title from 1921, when he first came to the Institute, until his retirement in 1945.

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.—headed by Dr. L. A. DuBridge—and, as chief of one of the large divisions of the laboratory, made a number of important contributions to the development of military radar equipment.

In 1943 the Radiation Laboratory released him to become Chairman of the Bomb Physics Division of the Los Alamos Laboratory. Here he supervised the development of the nuclear component of the bomb, and personally assembled this component for the first test bomb fired at Alamogordo in July, 1945.

At the end of the war Dr. Bacher returned to Cornell, as Professor of Physics and Director of the Nuclear Physics Laboratory, until he was called to serve on the Atomic Energy Commission in 1946. The only scientist on the five-man commission from 1947 until his retirement, Dr. Bacher has been replaced on the AEC by Henry DeWolf Smyth, Chairman of the Department of Physics at Princeton, and author of the "Smyth Report" on atomic energy.

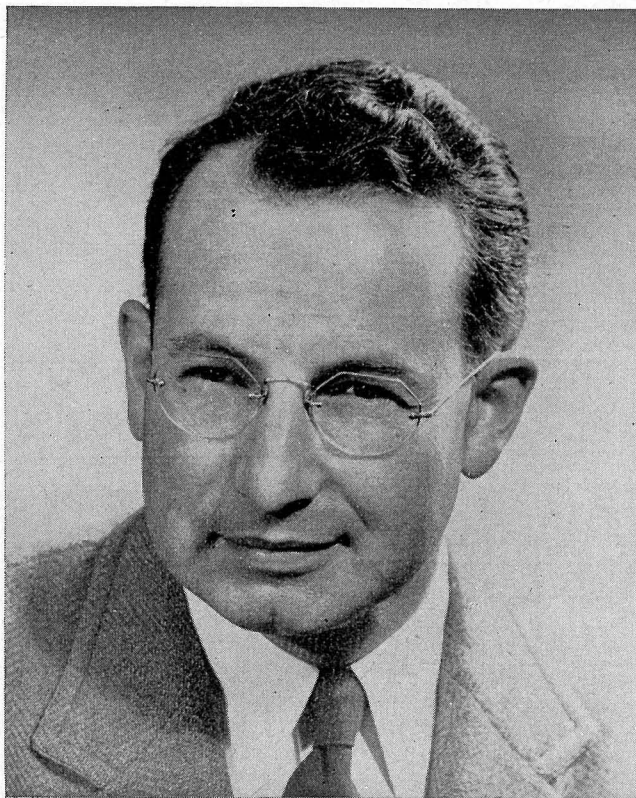
"The California Institute of Technology had sought the services of Dr. Bacher before he was appointed to the Commission in 1946," said Dr. DuBridge, "but his call to this important post caused the Caltech offer to him to be held in abeyance until his term of service with the Commission had been completed."

No stranger to Caltech, Dr. Bacher spent a year here as a National Research Council Fellow in 1930-31, after receiving his Ph.D. from the University of Michigan. In 1946 he was awarded the Presidential Medal for Merit in recognition of his outstanding work with the atomic bomb project, and in 1947 he was elected to membership in the National Academy of Sciences.

Smog and Agriculture

Each month Caltech gets more involved in the smog problem. In rapid succession Biology's Dr. Haagen-Smit has begun his study of local air samples to determine the basic components of smog (E & S, March '49); Dr. E. P. Hubble of the Mt. Wilson and Palomar Observatories has announced the organization of a citizens Pure Air Council to speed action on the smog situation (E & S, May '49); and now Dr. Frits Went, Professor of Plant Physiology, has joined the fight—to discover the effect of smog on agriculture.

This spring, crops in the Rosemead-Puente-El Monte area began to suffer from a strange ailment. Plant leaves assumed a silvery, metallic appearance, then dried up. Beets, endive, spinach, romaine, alfalfa and oats seemed to be particularly hard hit. Though the damage was only



Dr. Robert F. Bacher is the new Chairman of the Division of Physics and Director of the Norman Bridge Laboratory.

partial, and the plants later produced healthy new leaves, Dr. Louis C. McCabe, Director of the Air Pollution Control District, put his staff on the case. They soon came up with a possible relationship between periods of intense smog concentration and crop damage. From two to four days after heavy smog (specifically, March 14-16, April 10, 21, and 22), staff chemists discovered "damage which appeared to be caused by a gas."

At this point Dr. McCabe called in Dr. Went and the agricultural experts of the Riverside Citrus Experiment Station. Together, the scientists mapped out an ideal program of research, designed to confirm or disprove the deductions that smog is the villain in the case. The study may well be one of the very first to get underway in the new Earhart Plant Research Laboratory—of which there is more on page 3.

Jet Propulsion Fellows

The first annual fellowships at Caltech's Guggenheim Jet Propulsion Center were announced last month, following a nationwide search for the best available candidates. The Daniel and Florence Guggenheim Jet Propulsion Fellowships went to three graduate students—John McNamara of Hanover, New Hampshire; Robert Meghreblian of Los Angeles; and Hugh Wahlin of Madison, Wisconsin. Each fellowship is for one year, starting in September, 1949. All three men will be working for an M.S. degree in Aeronautics, with Jet Propulsion their major field.

McNamara, 27, is a graduate in mechanical engineer-

ing from Dartmouth College and is now working toward a master's degree at the Thayer School of Engineering, a Dartmouth associated school.

Meghreblian, 26, was born in Cairo, Egypt. He received his Bachelor of Aeronautical Engineering degree from Rensselaer Polytechnic Institute in 1943 and is currently an assistant project engineer for missile development at Caltech's Jet Propulsion Laboratory.

Wahlin, 24, is the son of Professor H. B. Wahlin of the University of Wisconsin's Physics Department. He will receive his B.S. degree in Mechanical Engineering from Wisconsin this year.

The Jet Propulsion Center at Caltech is one of two set up in this country by the Guggenheim Foundation. The other is at Princeton University, where fellowships were awarded to Frank W. Bailey of Newport, Vermont; Sin-I Cheng of Ann Arbor, Michigan; and Frank Kreith of Los Angeles, who is currently a senior research engineer at Caltech's Jet Propulsion Laboratory.

Earthquake Research

Since 1947 George W. Housner, Assistant Professor of Applied Mechanics and R. R. Martel, Professor of Structural Engineering, have been serving on the Advisory Committee of Engineering Seismology. Originally set up by the U. S. Coast and Geodetic Survey to advise it on such problems as how to make seismic measurements, and what instruments to use, the committee has now gathered such a mass of data on engineering seismology that its services can be extended far beyond an advisory capacity.

As a result, the 13 members of the committee have established an independent, non-profit organization known as the Earthquake Engineering Research Institute. This organization, which will attempt to bridge the gap between the science of seismology and actual building design and construction will collect, compile, correlate and distribute seismic data and make experimental and theoretical analyses with the specific objective of developing safe and economically feasible methods of earthquake construction and design. Working through

Big Chief Franklin Thomas who already carries the titles of Professor of Civil Engineering, Dean of Students, and President of the ASCE, has now added Master of Nature's Resources to the list. Or, as Dean Thomas's Indian brothers say it, the title is *Mau Gau Tah To Keah*.

This all came about at the recent ASCE spring meeting in Oklahoma City when Dean Thomas was, of all things, inducted into the Kiowa Indian Tribe, which has a reservation at Anadarko, Okla. The historic moment is captured in the picture at the right—and we've got to admit that the Dean makes the unlikeliest-looking Indian we've seen since Calvin Coolidge.



research contracts, subscriptions, and grants the Institute ultimately expects to have the staff and equipment to carry on a full research program.

Dinner for Three

Professor Clinton K. Judy, retiring head of the Division of Humanities, was honored at a dinner in the Athenaeum on May 26 by staff and faculty members. Professor Judy, who came to Throop Polytechnic Institute in 1909, is the oldest Caltech faculty member in point of service.

Honored on the same occasion were Dr. John Robertson Macarthur, Professor of Languages, Emeritus, who retired in 1945; and Mr. H. C. Van Buskirk, Professor of Mathematics, who retired in 1946. The pressure of wartime work prevented the Institute from formally honoring Dr. Macarthur and Prof. Van Buskirk upon the occasions of their respective retirements. Dr. Macarthur joined the faculty in 1920, served as Dean of Freshmen from 1923 to 1936, and again from 1943 to 1945. Prof. Van Buskirk came to Throop Polytechnic Institute in 1904, was Registrar from 1915 to 1935.

Honors from Norway

Just a few months ago, Dr. Linus Pauling, Chairman of the Division of Chemistry and Chemical Engineering, was elected a corresponding member of the Academy of Sciences of the Institute of France, not for his considerable achievements in the field of chemistry, but for his work in the field of mineralogy. Last month Dr. Pauling received word that he had been elected a foreign member of the Norwegian Academy of Science and Letters in Oslo—not, again, for his work in chemistry, but for his "attainments in the field of mathematics and physics."

Dr. Pauling's membership diploma was presented—by proxy—at a dinner in Oslo on May 3, attended by His Majesty, King Haakon VII, and His Royal Highness, Crown Prince Olav. Other diplomas went to the Danish architect Dyggve, and to Mr. Winston Churchill, for attainments in history and philosophy.