



William W. Michael



Robert L. Daugherty



Stuart J. Bates

THE MONTH AT CALTECH

Retirements

THREE MEN retire from the Caltech faculty this month: Stuart J. Bates, professor of physical chemistry; Robert L. Daugherty, professor of mechanical and hydraulic engineering; and William W. Michael, associate professor of civil engineering.

STUART J. BATES, professor of physical chemistry, came to Caltech in 1914, when the school was known as Throop College of Technology. Except for a year on leave (1922-23) at the Massachusetts Institute of Technology he has been here ever since. Born in Toronto, Canada, on May 9, 1887, he received his AB (in 1907) and AM (in 1909) from McMaster University there. In 1912 he got his PhD from the University of Illinois, and served as a research associate and instructor in physical chemistry there until he came to Caltech in 1914. One of the oldest members of the Caltech faculty in point of service, Dr. Bates is also the author of paper No. 1 in the numbered series (which now runs well over 2,000) of papers published by workers in Caltech's Gates and Crellin Laboratories of Chemistry. It is worth noting, too, that in something over 40 years of teaching at Caltech Dr. Bates managed never to miss a single class.

ROBERT L. DAUGHERTY, professor of mechanical and hydraulic engineering, was born on Sept. 14, 1885, in Irvington, Indiana. A graduate of Pasadena High School, he spent his college freshman year at Throop Polytechnic Institute in 1904-05. He received his AB in mechanical engineering at Stanford University in 1909 and served as an instructor there during the next year. In 1910 he went to Cornell University as assistant professor of hydraulics, and in 1916 he became professor of hydraulic engineering at Rensselaer Polytechnic Institute. He has been at Caltech since 1919. Professor Daugherty has had an active career as a consultant to industry, having worked with Union Oil, General Petroleum, Riverside Cement, and the Metropolitan Water District, among others. He has served as a city director and (from 1929 to 1931) as chairman of the board of city directors of Pasadena. From 1948 to 1953 he was chairman of the advisory committee of the Air Pollution Control District, and since 1954 he has been a member of the Air Pollution Control Hearing Board. He has written a number of textbooks in his field, the most recent being *Fluid Mechanics*—in collaboration with Alfred C. Ingersoll, assistant professor of civil engineering at Caltech—which was published in 1953.

WILLIAM W. MICHAEL, associate professor of civil

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engineering, was born on July 13, 1888, in Palatine Bridge, N.Y. He received his BS from Tufts College in 1909 and worked for several years as an office engineer, development engineer, and construction engineer before going into private practice in Kingston, N.Y., in 1915. He came to Caltech in 1918, and he has been in charge of the courses in surveying and highway and airport design since that time; in the early years of the Institute he taught geology as well. Professor Michael's hobby—trout-fishing—has brought him as much fame as his teaching. He is the author of a book, *Dry Fly Trout Fishing*, published in 1953, as well as countless magazine articles on this subject, and he has been in steady demand for speeches and broadcasts.

Military research

CALTECH IS ONE of five major educational institutions chosen this month to form a new agency—the Institute for Defense Analyses—to conduct scientific research on military problems. The other institutions are the Case Institute of Technology, Massachusetts Institute of Technology, Stanford University, and Tulane University.

The new non-profit agency will make scientific analyses of present and future weapons systems, and will study the cost and effectiveness of various systems in the changing technology of future war. These analyses will then go to the Weapons Systems Evaluation Group, established in 1949 by the Department of Defense, for further study.

Caltech's President L. A. DuBridge and Comptroller George W. Green are members of the board of trustees of the new organization.

Increase in tuition

STUDENT TUITION fees at Caltech will be raised from \$750 to \$900 a year, beginning in September, 1957. The need for additional funds to meet steadily rising costs has prompted the increase, which is actually in line with similar increases and tuition levels now in effect at other private colleges and universities.

Additional scholarship funds will still be provided for students who need assistance with their tuition.

Honors for Pauling

LINUS PAULING, professor of chemistry and chairman of the division of chemistry and chemical engineering, left early this month for Italy, where he will give a series of lectures (in Italian) under the auspices of the Italian Chemical Society. Dr. Pauling was recently elected an honorary fellow of the society—a distinction conferred on a small number of foreign chemists.

While he is in Italy, Dr. Pauling will also be awarded the Avogadro Medal of the Italian National Academy of Sciences. This is a newly-instituted award, to be given to distinguished chemists, and Dr. Pauling will be the first to receive it, along with Sir Cyril Hinshelwood, professor of physical chemistry at Oxford and president of the Royal Society of London. The award is to be presented at a special ceremony commemorating the death 100 years ago of the great Italian scientist, Amadeo Avogadro, whose work forms the basis of modern theoretical chemistry, and especially of the structural theory of chemistry.

Departures

CALEB W. McCORMICK, JR., assistant professor of civil engineering, leaves Caltech on July 1 to work for Pereira and Luckman, Los Angeles architects.

FRANCIS G. STEHLI, assistant professor of invertebrate paleontology, has resigned to do paleontological research for the Stanolind Oil Company in Tulsa, Oklahoma.

LLOYD C. PRAY, assistant professor of geology, has accepted a position as senior research geologist with the Ohio Oil Company in Littleton, Colorado.

SAMUEL KARLIN, associate professor of mathematics, leaves next month for Stanford University, where he will be professor of mathematics and statistics.

Walter Sydney Adams

WALTER SYDNEY ADAMS, noted astronomer and for 22 years director of the Mount Wilson Observatory, died at his home in Pasadena on May 11.

Dr. Adams first came to California in 1904 and played an important part in the planning and building of the Mount Wilson Observatory with Dr. George Ellery Hale. In 1923 Dr. Adams succeeded Dr. Hale as director of the Observatory and held this post until his retirement in 1946.

In his 50 years of astronomical work, Dr. Adams made many valuable contributions to the field of astrophysics, among the most important being his use of the spectroscope to determine the distances of stars and his research on solar phenomena and rotation.

Samuel Jackson Barnett

SAMUEL JACKSON BARNETT, research associate at Caltech since 1924, died at his home in Pasadena on May 23.

Known for his original theories on magnetization by rotation, called the "Barnett effect," Dr. Barnett continued his research work at Caltech until last year, even though he had retired in 1944 as professor of physics at UCLA, after teaching there since 1926.