

## Retiring This Year

- Anderson
- Bacher
- Wiersma
- Sechler



Carl Anderson, during his more than 50 continuous years on the Caltech stage, has played every academic role from that of undergraduate student on up to division chairman. After receiving his PhD in 1930, Carl set out to investigate high-energy cosmic rays by watching their progress through a cloud chamber placed in a huge (for those days) magnetic field. By 1932, with Carl now playing the role of research fellow, he had obtained cloud chamber photographs clearly proving the existence of the positively charged electron.

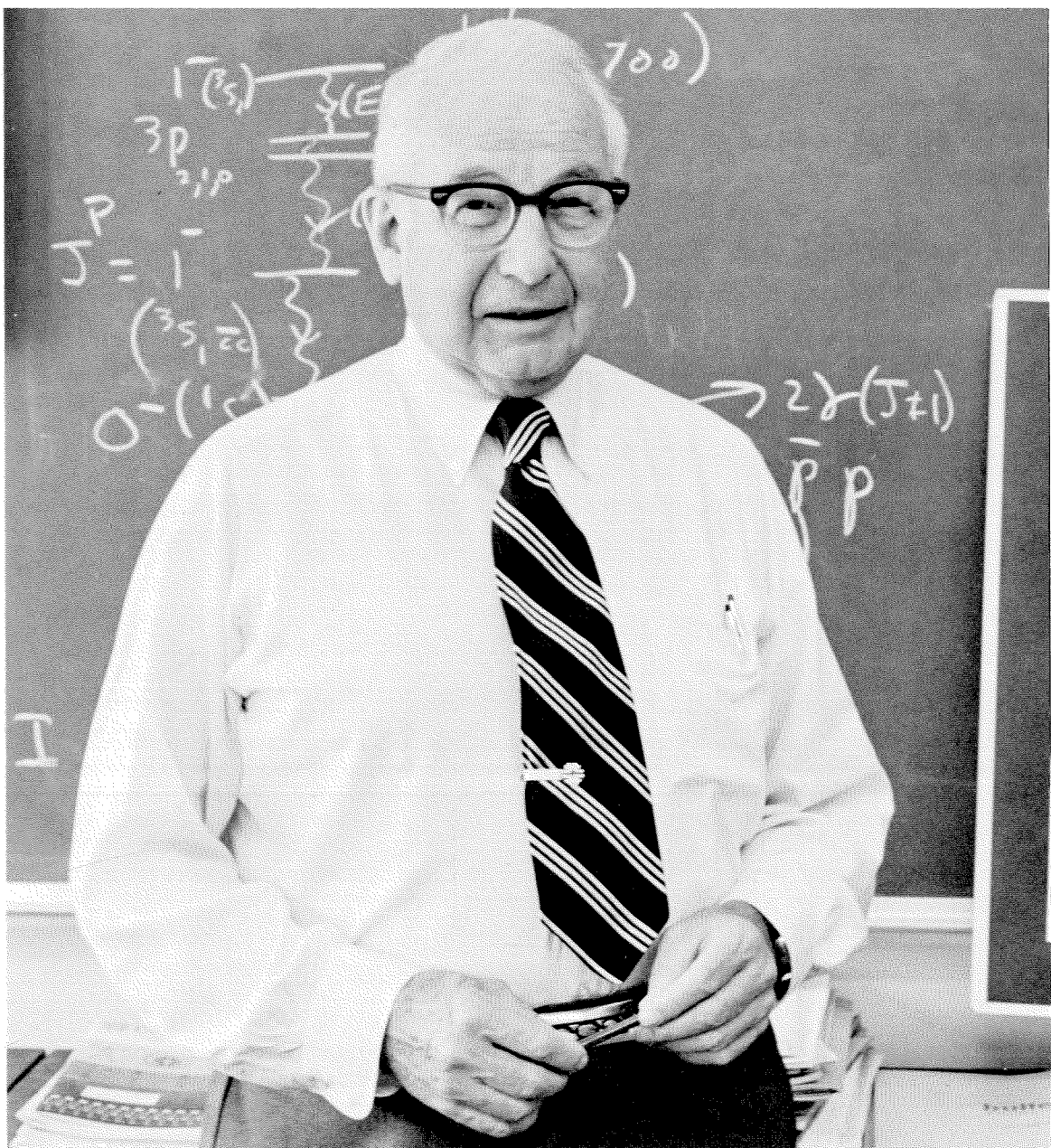
The discovery of the positron is one of the milestones in the history of physics and was recognized with the Nobel Prize in 1936. Continuing his cloud chamber studies of cosmic rays with his students and co-workers, nota-

bly Seth Neddermeyer, he soon discovered the muon, the first particle of mass intermediate between the electron and the proton.

The pursuit of cosmic rays took the cloud chamber, and Carl along with it, to a variety of altitudes and latitudes, but Pasadena and the Institute always remained home base. During the early 1940's, his research was interrupted for a stint in the service of the National Defense Research Committee, Office of Scientific Research and Development, in Pasadena and briefly in Germany, but as soon as hostilities ceased, Carl was back at his favorite pastime, this time flying the cloud chamber in a converted B-29 bomber. The productive postwar period saw the discovery or confirmation of V-particles, lambda particles, and the beginning of a long

stream of subnuclear particles — called with some optimism at the time, elementary particles. This evidence of the richness and complexity of the subnuclear world, first glimpsed in the cosmic rays, led to the production of the large modern accelerators that are turning out such exciting discoveries today.

Though any review of Carl's achievements will necessarily emphasize his research and his contributions to physics, this represents only half his professional concern, and he has taught 53 years of physics students at Caltech, give or take a few. From 1962 to 1970, he served as chairman of the Division of Physics, Mathematics and Astronomy. His many friends and colleagues on the campus look forward to catching Carl Anderson in his new role of Professor Emeritus.



**Robert F. Bacher**, professor of physics, retires this month after 27 years at Caltech as professor, division chairman, and provost. He attended the University of Michigan, receiving a BS degree in 1926 and a PhD in 1930. His early work was in spectroscopy, and while working in that field he wrote a book with S. Goudsmit entitled *Atomic Energy States*.

His first stay at Caltech was as a National Research Council fellow in 1930-31. In 1935 he joined the faculty at Cornell, where he worked in nuclear physics until 1949. During this period he was co-author with H. A. Bethe and M. S. Livingston of some famous articles on nuclear physics which, published in the *Reviews of Modern*

*Physics*, remained for many years the major "textbook" in that subject.

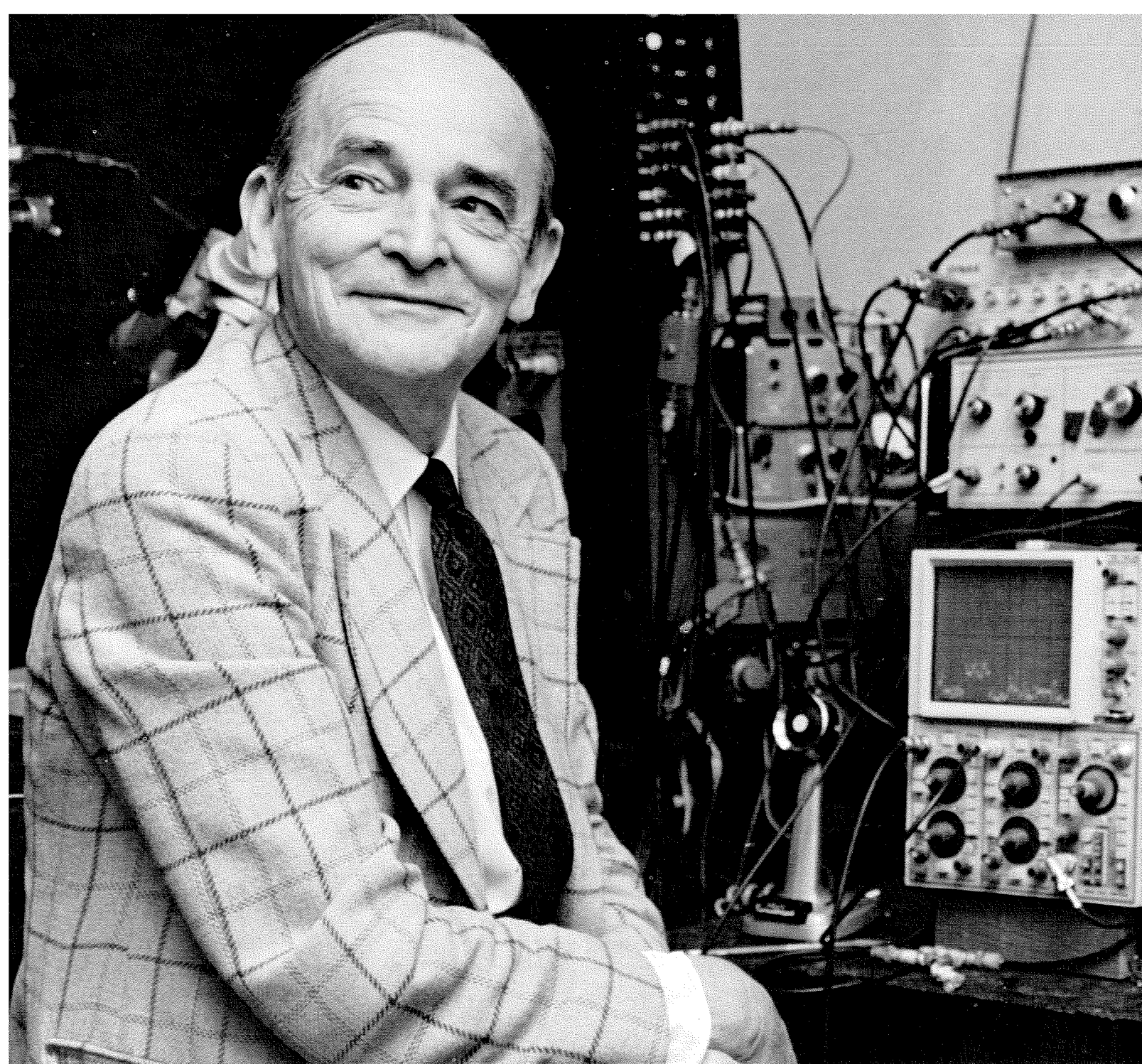
During World War II, he worked first in the radar program at the MIT Radiation Laboratory, under Lee DuBridge. In 1943 he moved to Los Alamos to work on the atomic bomb, serving as head of experimental physics (1943-44), then head of bomb physics (1944-45).

After the war he returned to Cornell as professor of physics but soon thereafter moved to Washington to serve as one of the first members of the new Atomic Energy Commission.

In 1949 he came to Caltech as chairman of the Division of Physics, Mathematics and Astronomy, which position he held for 13 years. While division chairman, he initiated or pro-

moted several programs of considerable importance to the Institute. One of these was the program in high-energy physics — based in the beginning on construction and use of a new electron synchrotron — which he directed. He is also largely responsible for the group in elementary particle theory, which he raised to a preeminent position by bringing Professors Feynman, Gell-Mann, and others to Caltech. And he initiated and encouraged our program in radio astronomy with the creation of the Owens Valley Radio Observatory.

In 1962 he became Caltech's first provost, and in 1969 he was appointed vice president in addition. These positions he held until 1970, when he retired from administrative duties.



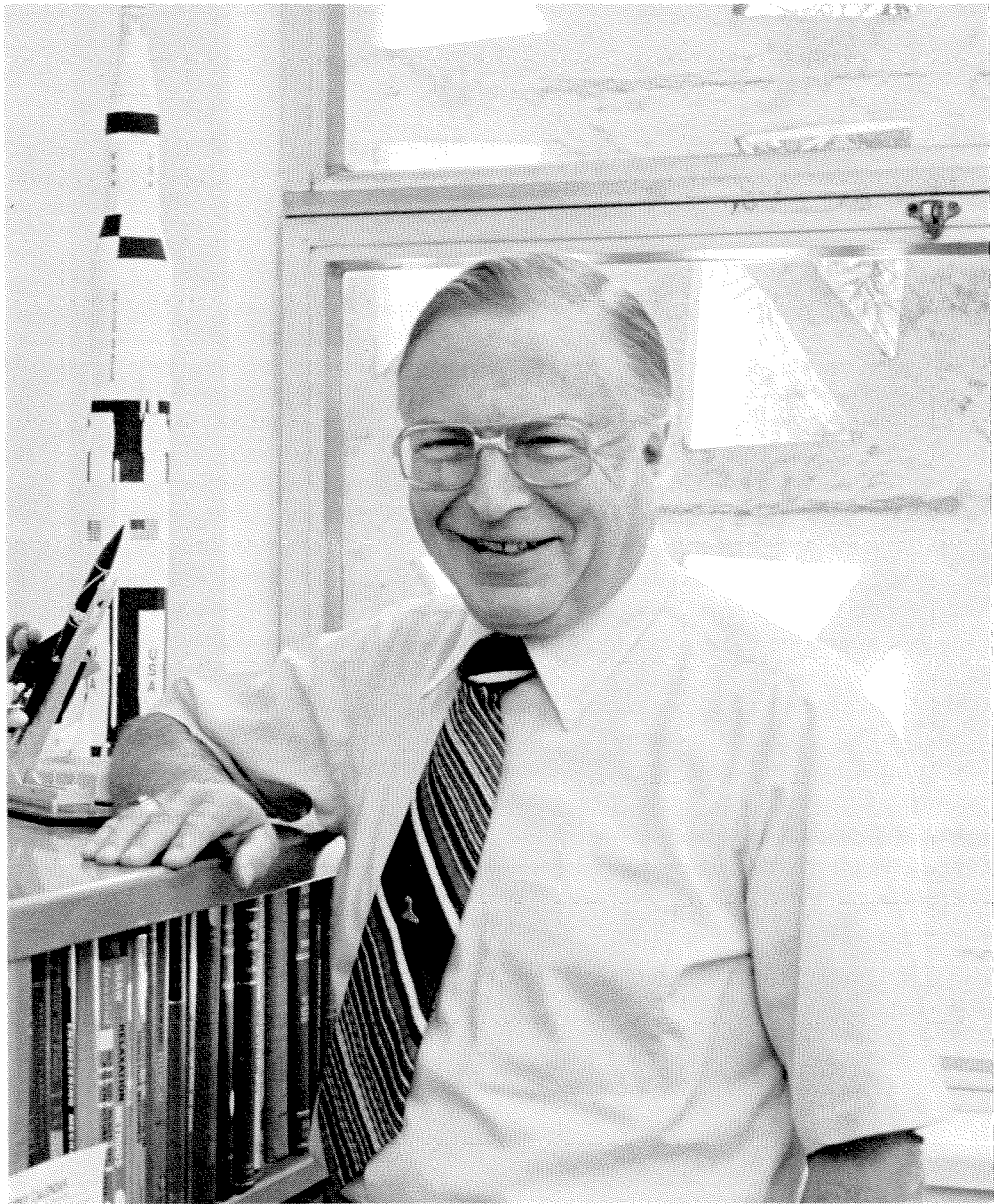
**C. A. G. Wiersma**, who has been a member of the Caltech faculty for almost 42 years, retires in July, acquiring emeritus status. Born in The Netherlands, he studied at the Universities of Leiden and Utrecht and was invited by Thomas Hunt Morgan to join the California Institute of Technology in 1934 to represent the then relatively new science of comparative physiology.

Wiersma obtained his doctoral de-

gree in 1933 from the Utrecht University with a thesis on the nerve-muscle system of crustaceans. He has maintained an interest in this class during his entire scientific life, performing pioneer work first on the neuromuscular system, then on the central nervous system and, during the last years, on the visual system — sometimes traveling to exotic places to pursue his studies. Over the years Wiersma has acquainted many students — undergraduates,

graduates, and fellows — with his favorite objects of research. His former co-workers commemorated his retirement recently with a symposium in his honor.

Wiersma is a member of numerous scientific societies including groups such as the American Physiological Society and the Society for Neurosciences, and he became a correspondent of the Royal Netherlands Academy of Arts and Sciences in 1956.



**Ernest Edwin Sechler** never expected, when he entered Caltech as a freshman in 1924, that he would spend his entire career here and become Professor Emeritus almost 52 years later.

In 1929 he received an MS in mechanical engineering, with an option in aeronautics. When the Guggenheim Aeronautical Laboratory was officially inaugurated a year later, the first MS degree in aeronautics was conferred upon Ernie Sechler, putting him at the head of a long list of renowned graduates from this laboratory. He received his PhD in 1934, and became full professor in 1946.

Ernie has nurtured a lifelong interest in teaching the design of safe, lightweight structures. And this interest was not confined to the design of airplanes. He played a decisive role in the

design of the large shell structure that covers the 200-inch telescope on Palomar Mountain and in the analysis and correction of the gravity-induced surface deformations of the 200-inch Palomar mirror. He was instrumental in designing the shell structure of the Cooperative Wind Tunnel — the big Caltech-operated test facility that, in operation, drew 50 percent of Pasadena's on-line power output. His work on the buckling strength of thin shells has influenced the design of missiles and boosters that are the backbone of our space effort.

His technical knowledge has found application by way of many consulting contacts throughout the aerospace industry, and he has provided guidance to the Air Force and NASA through chairmanship of various national advisory

committees on structural research.

Beyond his technical interest Ernie has always had a warmhearted concern for his colleagues and for the students of the Graduate Aeronautical Laboratories. Since the late 1930's Ernie has performed most of the admissions work for GALCIT, a task that was and is vital to the success of this option, and after Clark Millikan's death in 1966 he directed the Aeronautical Laboratories as executive officer until 1971.

Since retirement from the position of executive officer, Ernie has been active in teaching, design, and furthering the development of windmills as a power source. It seems safe to say that when the speeches are made and this note gathers dust, Ernie will continue to operate in his familiar style, oblivious to the meaning of emeritus status.