Charles H. Townes was a vital and beloved member of the Physics Department at the University of California, Berkeley for almost 50 years. His influence as a scientist shifted paradigms and his voice as a government advisor was heard at important times. It is not an exaggeration to say that the world would have been a very different place without the scientific advancements made by Townes. The Department of Physics at the University of California, Berkeley would also have been very different without the genteel manner of Townes and his superb example of scholarship and research. Alumni, students, faculty and staff consider themselves lucky to have worked alongside this giant figure of the 20th and 21st centuries.

Townes was born in 1915 in Greenville, South Carolina, and he graduated from Furman University in 1935. He completed a master's degree in physics at Duke University in 1936, and in 1939, he received a Ph.D. degree in physics at the California Institute of Technology. His career took him many places: Bell Labs, Columbia University (where he did his work on the maser and laser), the Institute for Defense Analysis in Washington, D.C., and Berkeley.

Dr. Townes' principal scientific work was in microwave spectroscopy, nuclear and molecular structure, quantum electronics, radio astronomy and infrared astronomy. He held the original patent for the maser and with Arthur Schawlow, the original laser patent. He received the Nobel Prize in 1964 "for fundamental work in quantum electronics which has led to the construction of oscillators and amplifiers based on the maser-laser principle."

Joining Berkeley in 1967, Townes returned to full-time research and teaching, and pursued new interests in astrophysics. His work in radio astronomy resulted in the first detection of polyatomic molecules in interstellar clouds and the use of molecular spectra to characterize these dark clouds, now an important astronomical field. In the infrared region, he worked primarily on high spectral and spatial resolution for astronomical observations. Much of this work was directed towards understanding the galactic center. Beginning in 1988, Townes used three moveable telescopes for obtaining very high angular resolution of astronomical objects at infrared wavelengths by spatial interferometry.

During much of his career, Townes was also active as a government advisor. He was a member of the President's Science Advisory Committee from 1965 to 1969, and vice chairman of that group during the second half of his term. Townes served as the president of the American Physical Society in 1967. He was chairman of the technical advisory committee for the Apollo Program until shortly after the first successful lunar landing. He has also chaired committees on Strategic Weapons and the MX missile, and was active in the National Academy of Science's contacts with China, its work on arms control, and its meetings with representatives of the Soviet Academy; he also had an active role in helping to formulate advice given by the Papal Academy to the Pope on issues of peace and the control of nuclear weapons.

The Charles H. Townes Graduate Fellowship in Physics

**Honoring the Legacy of Professor Charles H. Townes**

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The Charles H. Townes Graduate Fellowship is considered a great honor among graduate students studying physics. It is awarded annually to a graduate student who exemplifies the many qualities Townes had: dedication to research, leadership among peers, and a high record of achievement and academics.

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