

Bernard Gittelman

October 28, 1932 — November 25, 2006

Bernard Gittelman, Cornell Professor Emeritus of Physics, died November 25, 2006 at age 74. The cause of death was amyotrophic lateral sclerosis (also known as ALS or Lou Gehrig's Disease).

Gittelman earned his Bachelor's and Ph.D. degrees at the Massachusetts Institute of Technology, and then worked as a Research Associate at Princeton University from 1958-66 and Stanford University from 1966-69. At Stanford, he collaborated with Burton Richter, Gerard O'Neill and W.C. Barber to construct the first colliding beam device, a storage ring pair that scattered electrons on electrons. These physicists used the storage ring in a unique experimental test of quantum electrodynamics and in novel searches for new particles and phenomena. When the Stanford Linear Accelerator came on line, he participated in a definitive series of experiments that measured the production of elementary particles by the highest energy photons available at the time.

Gittelman joined the Cornell faculty in 1969. He led a series of experiments exploiting photon and electron beams produced by the Wilson Laboratory 10 GeV Synchrotron to investigate the production and decay of elementary particles. These experiments included measurement of the lifetime of particles called neutral pions, which have a very short lifetime that is notoriously difficult to measure. This measurement utilized a subtle effect (called the Primakoff effect) in the production of neutral pions by photons. Today, over 30 years after Gittelman and his colleagues published their result, this measurement remains competitive with other more recent measurements.

In addition to his leadership in the experimental elementary particle physics program at Cornell, Gittelman participated actively in important experiments at Fermilab (near Chicago) and DESY (Hamburg, Germany). At Fermilab, he was involved in early and often-cited measurements of the scattering of a variety of high-energy particles on protons. At DESY, he participated in early studies of the properties of the J/psi meson.

Gittelman was a pioneer in the design and development of the electron-positron storage ring facility at the Wilson Synchrotron Laboratory. He was one of the founders of the CLEO collaboration, the large multi-university collaboration devoted to exploiting the Cornell Electron Storage Ring (CESR) for the study of the production and decay of new particles containing heavy quarks. He was a leader in the design and construction of the CLEO detector and its later-year upgrades. He served as elected run manager and analysis coordinator, and was the collaboration expert on high-energy electron detection. The Cesium-Iodide electromagnetic shower detector array that he pioneered has since been copied in many other laboratories. He was a participant in the discovery

of the B meson, the first-known particle containing the heavy b (or “bottom”) quark, and he contributed to the discovery of many more properties of the b quark. Gittelman’s contributions were one of the key reasons why Cornell and the CLEO collaboration led the world in heavy quark physics during the 1980s and 1990s. In 1987, Gittelman was elected a Fellow of the American Physical Society:

“for contributions to the design of storage rings and detectors as well as for contributions to the understanding of the physics of the production and decay of B mesons.”

Beyond his research effort, Gittelman was an enthusiastic and devoted teacher at Cornell. He especially enjoyed teaching laboratories in introductory physics courses and he designed new experiments for them. He was an excellent team worker in these courses and he was dedicated to ensuring the quality of the materials prepared for students.

Gittelman lived life to the fullest; he was a tenacious tennis player and he enjoyed skiing, windsurfing, music, theater, and dancing, especially swing and square dancing.

After his retirement in 2002, and in spite of his illness, Gittelman continued his involvement with the CLEO research program and the intellectual life of the Laboratory for Elementary-Particle Physics. Only a few days before his death, he visited the laboratory to discuss the latest developments in the CLEO experimental program.

His wife Sandra; brother, Joseph; daughter, Jan; sons, Arye and Joshua; and four grandchildren survive Gittelman.

Karl Berkelman, Chair; David G. Cassel, Ahren Sadoff