undertaken as part of planning for the Large Space Telescope beginning in 1974.

After joining the Planetary Camera Team of the LST (later, of course, HST) with Westphal as Principal Investigator, Kristian became deeply involved in planning of future observations. He nevertheless maintained an active schedule of ground based observations, evidenced by his publications related to super-massive objects in the centers of galaxies and to gravitational lenses. A number of preliminary HST results in these two fields have been published with Kristian’s participation, but undoubtedly many definitive publications in these and other fields were in preparation at the time of Jerry’s untimely death. It should be expected that his HST team co-workers will keep his name in print for a long time to come.

In conclusion, an anecdotal reference to Jerry’s sense of humor will be recalled. Sometime in 1969, after I mentioned to him that one of my 18th century ancestors was a full blood Mayan Indian, he mentioned having Cherokee heritage, to which he traced his darkish complexion. At the time, I did not inquire further about the matter, but when I recently asked his son, John M. Kristian, whether he could verify this ancestry, he answered “He was pulling your leg when he spoke of being part Indian.” John gave me a further example of Jerry’s sense of humor which appears in his High School yearbook: he listed his hometown as “Brewburg” rather than Milwaukee.

Guido Munch
849 Coast Blvd., La Jolla, CA 92037

ROBERT B. LEIGHTON, 1919-1997

Robert Benjamin Leighton died 9 March 1997 after a decade-long illness, gracefully endured. His survivors include his wife Marge Leighton, sons Alan and Ralph, and two grandchildren.

Leighton was born in Detroit on 10 September 1919. He began his undergraduate career at Los Angeles City College, but transferred to the California Institute of Technology as a junior, receiving a BS in electrical engineering in 1941. He remained at Caltech the rest of his life, earning MS and PhD degrees in physics in 1944 and 1947 and the titles of Research Fellow (1947-49), Assistant to Associate to Full Professor of Physics (1949-53, 1953-59, 1959-84), William L. Valentine Professor of Physics (1984-85), and Valentine Professor Emeritus (1984-97). He was, in addition, a staff member of the Hale Observatories (1963-80), a principal or co-investigator on Mariner 4, 6, 7, and 9, and Chairman of the Division of Physics, Mathematics, and Astronomy at Caltech (1970-75).

Leighton’s thesis work and first published paper concerned the specific heat of face-centered cubic crystals, and the tale of how he did a complicated triple numerical integral for the project by machining the shape out of metal and weighing it has come down to his students. During World War II, Bob worked with a group headed by Carl Anderson to develop and test solid propellant rockets to be mounted under the wings of aircraft. Another assignment was to design the burning surface of a solid propellant charge in such a way that gas generated by combustion would provide a nearly constant thrust to the projectile as it flowed through the exhaust nozzle. He was a key figure in the theoretical calculations, static testing in Eaton Canyon, and dynamic (free flight) testing at Inyokern in the Mojave Desert.

Leighton moved definitively into Anderson’s cosmic ray group soon after completing his thesis. He was instrumental in the 1949 demonstration that the products of mu-meson decay were two neutrinos and an electron, and he made the first measurements of the energy spectrum of the decay electron (at the time, low statistics experiments suggested that only one neutrino was involved). In 1950, he made the first observation of strange particle decays after the initial discovery of two cases in England in 1947. Over the next seven years, he elucidated many of the properties (mass, lifetime, decay modes, and energies) of several of the new strange particles, particularly the lambda, the xi, and what were then called theta particles (K mesons).

About 1956, Leighton became interested in the physics of the outer layers of the sun. As Mount Wilson Observatory management pondered the future of its solar program, Bob obtained permission to use the early morning hours of good seeing at the 60 foot solar tower. His study of solar granulation was the definitive work up to that time. He added a beam splitter and polarizers to the Mt. Wilson spectroheliograph and obtained photospheric magnetograms of unprecedented spatial resolution. These observations showed that strong magnetic fields exist outside sunspots and coincide with the network of intense chromospheric emission.

Bob further modified the instrument so that it could be used to obtain Doppler images of the sun, and, in one glori-