Harvey Akio Itano, University of California, San Diego emeritus professor of pathology, died this past May at age 89. Itano was best known for his work, with Linus Pauling, on the molecular basis of sickle cell anemia.

“Harvey Itano was one of the most illustrious, well-known and influential faculty on the entire UC San Diego campus,” said David N. Bailey, distinguished research professor of pathology at UC San Diego. “Despite this, he was extremely modest and humble. His dedication to research and teaching was his raison d’être. He enriched the lives of innumerable faculty, staff and students.”

Itano was born in Sacramento, Calif., in 1920. He graduated from the University of California, Berkeley, in 1942 with highest honors in chemistry. However, he was unable to attend his graduation ceremony because he and his family were sent to the Tule Lake internment camp in Northern California in early 1942 after the Japanese bombed Pearl Harbor. Despite this, in recognition of his outstanding achievements as a student (he earned the highest academic record in his class), then-UC President Robert Gordon Sproul personally awarded him the University Medal during his internment.

Itano was released from the camp on July 4, 1942, the first of the Nisei (second-generation Japanese-Americans) to be released to attend colleges and universities. He enrolled at the St. Louis School of Medicine and earned his medical degree in 1945. Then he went to the California Institute of Technology for graduate school, where he worked with Nobel laureate Linus Pauling using electrophoresis to identify the differences between the hemoglobin in normal red blood cells and those afflicted with sickle cell anemia.

Itano and his colleagues were able to show that the disease’s hallmark sickling of blood cells was caused by a mutation in a single amino acid in hemoglobin. His finding, published in the journal Science in 1949 (1), was the first demonstration that a disease could be caused by a singular molecular defect.

Itano received the Eli Lilly Award in Biological Chemistry in 1954 in recognition of this work.

“Although I did not know Dr. Itano personally, his work on the biochemistry of hemoglobin and hemoglobinopathies helped form the foundation for the practice of modern hematopathology today,” said Steven Gonias, professor and current chair of pathology at UC San Diego.

Itano earned his doctoral degree in chemistry and physics in 1950, after which he joined the U.S. Public Health Service as a senior assistant surgeon. Ultimately, he became chief of the section on chemical genetics in the Laboratory of Molecular Biology at the National Institute of Arthritis and Metabolic Diseases and medical director of USPHS in Bethesda, Md. Itano held these positions until 1970, when he was recruited to the faculty of the UC San Diego School of Medicine. There he continued his work in sickle cell disease and abnormal blood cells until his retirement in 1988.

Itano was the recipient of many awards and honors, including the Martin Luther King Jr. Medical Achievement Award from the Southern Christian Leadership Conference in 1972 for his work unraveling a disease that primarily affected African-Americans. He was elected to the National Academy of Sciences and the American Academy of Arts and Sciences. He also was named the Japanese American of the Biennium in the field of medical science by the Japanese American Citizens League.

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REFERENCE