



## IN MEMORIAM

Robert A. Satten  
Professor of Physics & Astronomy, Emeritus  
Los Angeles  
1922– 2001

The UCLA community lost an eminent scholar and an outstanding faculty member in the passing of Professor Robert A. Satten on September 26, 2001.

Robert Satten was born in Chicago, Illinois, on August 4, 1922. He received his B.S. degree in physics from the University of Chicago in 1944. He commenced his graduate studies in physics at UCLA in 1944 and received the M.A. and Ph.D. degrees in 1947 and 1951, respectively. His dissertation was in solid- state spectroscopy.

On completion of the requirements for the doctoral degree he was employed as an instructor in physics at UCLA for one year (1951-52) before moving to MIT as an assistant professor of physics. In 1953 he returned to UCLA. He spent the rest of his career at UCLA moving through the professorial ranks and becoming a full professor in 1963.

Bob Satten was an energetic and original thinker and this was reflected very strongly in every aspect of his service to the university as a faculty member. His university service was marked by constant dedication to efforts towards the general good of the campus. He participated in a number of campus- wide committees both of the academic senate and the administration. He worked tirelessly when he was convinced that action was needed. As an example, he was instrumental in bringing campus recognition to the need for a special salary scale for the engineering faculty in order to attract and retain outstanding engineering faculty.

Satten was driven by a constant desire to be an effective teacher. He stressed the importance of thinking from the fundamentals. He taught by letting his personal method of logical thinking from fundamentals to solve complex problems serve as a model. He commanded the respect of his students with his style of student-teacher relationships with students. He trained his research students in all aspects of spectroscopy that extended over a wide spectrum of techniques such as microwave, infra- red, visible and ultra- violet measurements, and optical detection of electron paramagnetic resonance and solid phase transitions.

In his research he made several pioneering accomplishments. He never shied away from tackling difficult subjects and was studying hard problems. He was one of the pioneers of low temperature spectroscopy. His Ph.D. dissertation on triply ionized Neodymium led to early interest in vibronic spectra. His use of optical techniques for the detection of phase transitions was the first observation of the kind. He and his associate, Dr. Eugene Wong, were the first to observe phase transitions in actinides producing Jahn Teller effect in the ground state of  $Ur^{+4}$ . His work on rare earth crystals was a fundamental piece that gained in importance as advances were made in solid- state lasers in the sixties. He was hired by Hughes Research Laboratories as a consultant and commissioned to make a study of optical transitions in solids that can be used for laser applications. He made a theoretical study of selection rules for optical transitions using group theory and this work was published as a report. It became a classic reference book for workers in the field of rare earth crystal lasers. Bob's work in Hughes was significant and contributed to the discovery and development of lasers by Hughes scientists and engineers. His other significant contributions include the study of Raman effect in biaxial crystals.

In addition to his work as a consultant in Argonne National Laboratory, Hughes Research Laboratory and Lockheed Research Laboratory, he was invited as a visiting professor or a scientist in a number of laboratories in the world. He visited Grenoble, France as a Fulbright research scholar in 1961-62, and Germany in 1969-70 as a visiting scientist. He was a visiting Erskine Fellow at the University of Canterbury in 1971.

Satten was active in professional societies. He was a long-standing member of the selection committee for the UCLA chapter of the phi- beta- kappa honor society. He was involved in it even after he retired from service as a professor. He was a member of the Executive Committee of the Western Spectroscopy association for four years including one year as the chair. He became the vice- chair of the physics department in charge of student affairs from 1968 to 1973. His calm, kind and balanced approach in dealing with students was appreciated by the students. Bob was a man of high character and lofty principles.

Satten was fond of folk dancing and till the time he passed away, he and his wife, Erica, went dancing two nights every week. It is believed that he met Erica on one such occasion in his early life. Bob and Erica were so good in dancing that they went on exhibition tours. Bob also was very fond of walking. Most of the days he walked from his residence to the campus. He was fully devoted to his life as a professor, scientist and humane and kind person.

Chand R. Viswanathan  
Rubin Braunstein  
Oscar M. Stafsudd