

NWC ASSISTS NAVAL ACADEMY

Today and tomorrow, the 9th and 10th of May 1969, at the United States Naval Academy in Annapolis, Maryland, another honor is being added to the memory of Albert Abraham Michelson, America's first recipient of the Nobel Prize in Physics. D. T. McAllister, Consultant, Technical Information Department and Curator of the Michelson Museum at China Lake, will be the principal speaker at the Friday evening program, "A Tribute to Albert A. Michelson," in Mahan Hall. The new science building, a six-story structure containing laboratories, lecture halls, and classrooms, will be formally dedicated as Michelson Hall on Saturday. Several items from China Lake are among the Michelson mementos on display in the new building.

Captain Robert Williamson II, Executive Officer of the Naval Weapons Center, will officially represent NWC at the dedication. Others attending from China Lake will be K. H. Robinson, Head of the Technical Information Department, and A. B. Christman, Senior Presentations Specialist.

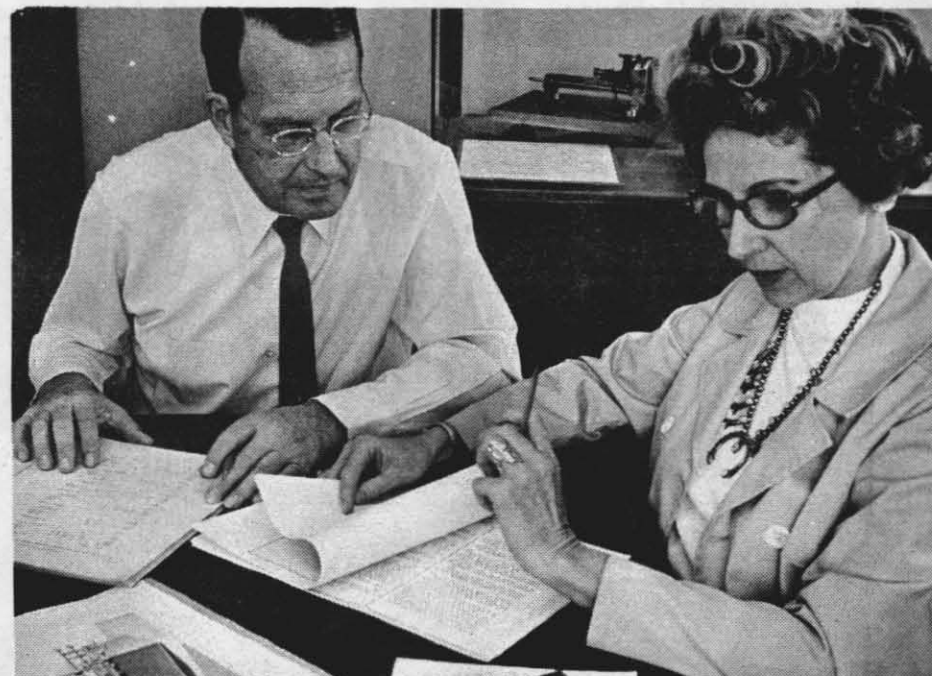
Most people at NWC realize that Michelson Laboratory, China Lake, was named after the same A. A. Michelson. Relatively few people even in Michelson Laboratory know much about the Michelson Museum at China Lake. The assistance NWC has been able to provide the Naval Academy in connection with the dedication points up the extent and significance of the museum. This began in 1964 when McAllister and Robinson first made officials at the Academy aware of the extent of the collection at China Lake. As planning for the proposed science hall became more definite, advice on exhibits was furnished on several occasions. For example, Robinson suggested marking Michelson's original light path used for his first measurements of the velocity of light in 1878-79. This path crosses what is now the open courtyard in front of Michelson Hall. A bronze plaque identifies the experiment, and metal markers show this section of the light path. Photographs, replicas, and models of experimental equipment have been furnished the Academy, some of which are shown in the accompanying photos.

It is entirely fitting that a Navy science building be named in honor of A. A. Michelson. A graduate of the Naval Academy (1873) and an instructor in physics and chemistry there from 1875-79, he first received world-wide recognition for his determination of the velocity of light while on the science faculty at Annapolis. Then, after resigning from the Navy in 1881, he successively headed the physics departments at Case, Clark, and the University of Chicago and became America's most renowned researcher in the study of light and its application to metrology. Thus his very name is a constant stimulus to outstanding work in science as well as military-civilian cooperation. These considerations led to the selection of his name for the China Lake Laboratory, as they have for the new building at Annapolis.

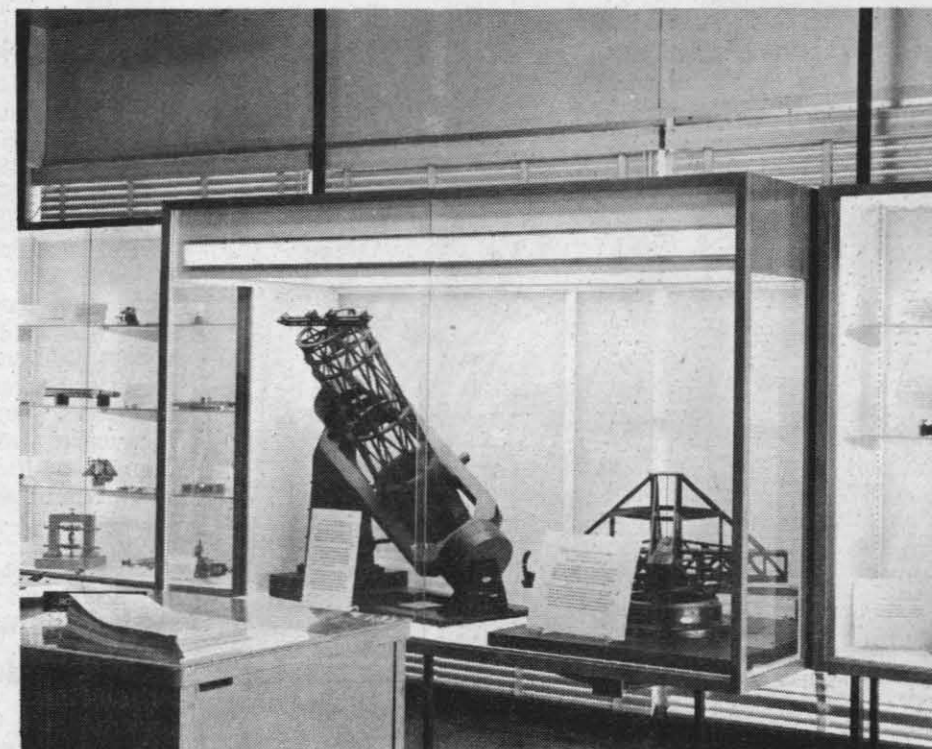
Beginnings of Michelson Museum

For the May 1948 dedication of Michelson Laboratory at China Lake, an impressive array of Michelson's instruments, publications, data records, and other memorabilia was assembled and exhibited by courtesy of the University of Chicago, the Mount Wilson Observatory of the Carnegie Institution of Washington, the Naval Observatory, the Michelson daughters, and friends and admirers of the illustrious physicist. So effective was this display that at the suggestion of the Technical Director, Dr. L. T. E. Thompson, and with the generous concurrence of Dean Walter Bartky of the Physical Sciences Division of the University, the directors of the observatories, and the individual donors, it was made a permanent one. Then, through the unstinting efforts of Thomas J. O'Donnell, for many years Professor Michelson's able assistant, and under the leadership of Dr. William B. Plum as curator, this collection, with many additions, became the nucleus of the Michelson Museum.

In 1961, Center management decided that a more consistent effort should be applied to caring for the items as well as accurately identifying, cataloging, and expanding the collection. It was at this point that D. T. McAllister entered the picture. McAllister's training, experience, patience, and thoroughness admirably suited him to the enormous task of science-history detective work. A technical information specialist with degrees in chemistry and English, McAllister is a scholar with experience in teaching English at the National University of Chekiang, Hangchow, China, and in communications work with the American Consulate General at Shanghai just preceding World War II. Then after serving as an editor at CalTech, he came to China Lake in 1946 to head the Technical Library and the publishing organization. He has also headed the Presentations Division of the Technical Information Department.



D. T. McAllister, Curator of the Michelson Museum, and his assistant, Georgia Cabe, at work on Michelson's scientific documents. Their offices are in Bldg. 464 (former Dorm 13), which houses the part of the Michelson Museum collection not on display in Michelson Laboratory.



Exhibited in the north lobby of Michelson Laboratory at China Lake are instruments used by Michelson, models of two of his famous experiments, and panels summarizing various facets of his life and work. Other items of the Michelson Museum collection are exhibited in the main lobby of the Laboratory, in Building 464, and at the Smithsonian Institute in Washington.



A. A. Michelson at his desk in the Ryerson Physical Laboratory, University of Chicago. This 1927 photo by H. P. Burch of the Oriental Institute was one of those Michelson liked best.

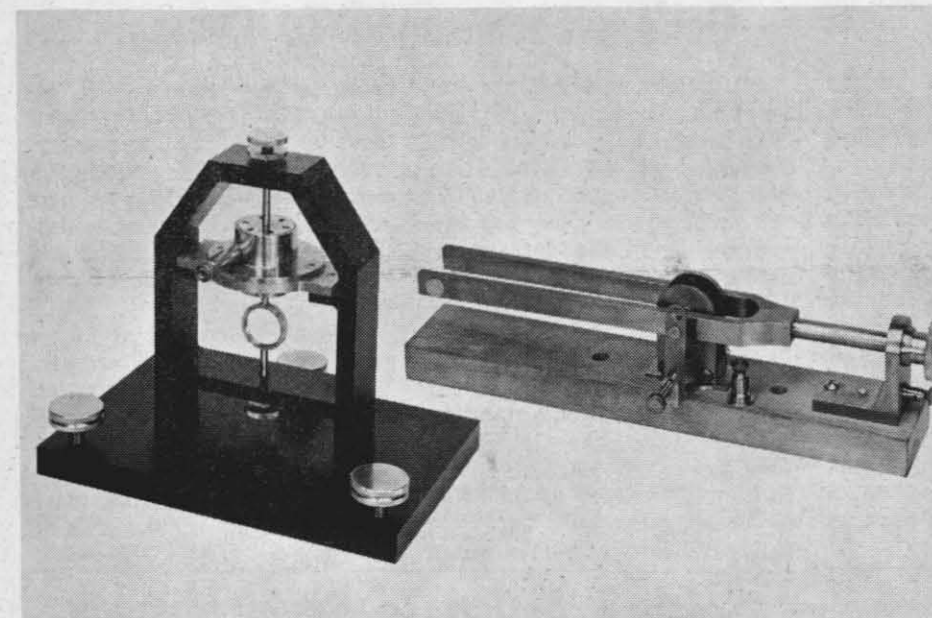
WITH MICHELSON HALL DEDICATION

Collection Grows

Since McAllister, assisted by Georgia Cabe, began piecing together the Michelson story, many of the Museum's 150 pieces of hardware ranging from complete and still usable interferometers to bits of speculum metal have been identified, as well as over 10,000 pages of manuscripts, notebooks, and other documents. Many of these are photocopies of Michelson materials in other collections, for McAllister has turned detective and is actively tracking down important items in other institutions, museums, and personal collections throughout the country.

As the collection grows, the Museum has come to the attention of a larger and larger number of people. For example, about 2,000 scientists attending the 50th Anniversary Meeting of the Optical Society of America in Washington, D.C., in March 1966, were shown an exhibit of Michelson's instruments used in interferometry and a short film incorporating three rare glimpses of Michelson in person prepared in collaboration with Dr. Jean M. Bennett of the Physical Optics Branch of the Research Department.

Regularly the Museum answers inquiries from researchers, students, scientists, and publishers in the history of science. The range of requests can be seen from these recent examples. An Australian scientist duplicating the Michelson-Morley experiment asked for details of the original experiment; a Japanese scientist inquired about a very small interferometer exhibited at the Optical Society meeting; and a Nevada physics professor requested information for an article he was writing. And here at NWC, the Museum has made its facilities available to Dr. Jean Bennett herself in the preparation of her contribution to the series on Nobel Prize Winners in Physics now being published by Fratelli Fabbri Editori, Milan, Italy.



Facsimiles of two of Michelson's instruments, made by Nelson L. Petty of the Mechanical Division of the NWC Engineering Department, are now on exhibit in the new Michelson Hall at Annapolis. On left is the revolving mirror he used at the Academy in his determinations of the velocity of light in 1878-79, reproduced from published sketches. On the right is an electrically driven tuning fork similar to the one used in the same experiments.



Some supporters of the Michelson Museum gathered at its display at the 50th Anniversary Meeting of the Optical Society of America, Washington, D.C., March 1966. Left to right: RADM. E. M. Eller, USN (Ret), Director of Naval History; Mrs. Festus F. Foster and Mrs. Goodhue Livingston, daughters of A. A. Michelson; Thomas J. O'Donnell, Chief Machinist's Mate (Ordnance) during World War I who became Michelson's assistant at the University of Chicago and built many of his precision instruments; and Mrs. E. M. Eller. —Mitchell Valentine Photo

Errors Found

Anyone examining the collection of instruments and their captions in the Museum or inquiring about specifics of any aspects of Michelson's work cannot but be impressed by the scholarship and infinite care being exercised by McAllister and Mrs. Cabe as they work with the Museum materials. Their research has helped to dispel some of the folklore about Michelson's work. For example, even among scientists, the misconception exists that Michelson received the Nobel Prize for his measurement of the velocity of light or for the Michelson-Morley experiment. The citation itself reads (as translated from the Swedish): "... for his precision optical instruments and the spectroscopic and metrological investigations conducted therewith." According to McAllister, this means, in broad terms, "... for his invention of the Michelson interferometer and related instruments and for their application to the determination of the standard meter in wavelengths of light, to fine-line analyses of the spectrum, and to similar measurements of extraordinary precision."

In discussing the dedication of the new science building, Robinson said, "The Naval Weapons Center is honored to have been consulted by the Naval Academy in several aspects of the planning and dedication of Michelson Hall. We take pride that the Michelson Museum is becoming recognized as the single most authoritative source of information on the scientific aspects of Michelson's life. It is appropriate that D. T. McAllister participate in the dedication since his thorough study has eminently qualified him to speak on the life and works of this famous Academy graduate."

"The Center, in establishing the Michelson Laboratory and fostering its tradition, feels that the superlative precision and creative instrumentation of A. A. Michelson should be a continuing inspiration to the men and women working here."



The illuminated Nobel diploma presented to A. A. Michelson in 1907 and sixteen of his medals are the highlight of the display in the main lobby of Michelson Laboratory. For the Michelson Hall at Annapolis, replicas of the medals have been made by The Palomar Co. of Los Angeles, and of the parchments by R. A. Kasten, an outstanding Los Angeles calligrapher.



Portrait of A. A. Michelson that hangs in lobby of Michelson Laboratory was unveiled by Dr. Robert A. Millikan at the dedication in 1948. Naming of Michelson Hall at the Naval Academy in his honor is another fitting tribute.