

# MEMORIAL RESOLUTION ARTHUR B.C. WALKER, JR.

(1936-2001)

Solar Physicist, Arthur Bertram Cuthbert Walker II, or A.B.C. Walker, Jr., a Professor of Physics and Applied Physics at Stanford University, an innovative astrophysicist, and a mentor of women and minority students, died on April 29, 2001 at his home after a lengthy battle with cancer.

Arthur Walker was born in Cleveland, Ohio on August 24, 1936, the only child of Cuthbert and Hilda Walker. In 1941 his family moved to New York City. From an early age Art developed an interest in science, following the footsteps of Einstein, the hero of most of us young adults in those days, and decided to pursue it after being admitted to Bronx High School of Science. In spite of many obvious obstacles and attempts by a teacher to discourage him from being a scientist, with his mother's support, and inspired by his other role model, Benjamin Bannarker (1731-1806) the first African American man of science in the United States, Art persevered and at the end succeeded in earning his bachelor degree in physics with honors from Case Western Institute of Technology in 1957 and Master's and doctorate degrees in 1958 and 1962, respectively, from University of Illinois. His Ph.D. thesis was on "Photomeson Production from Neutrons Bound in Helium and Deuterium" with James H. Smith advisor. He was elected to membership of Tau Beta Pi, Sigma Xi and the Sigma Pi Phi fraternity for black professionals.

After completing his Ph.D. degree, Walker joined the U.S. Air Force in 1962 and worked at the Air Force Weapons Laboratory, where he was involved in the development of instruments for a rocket launched satellite to investigate the radiation from the Earth's Van Allen Belts. After completion of his military duty in 1965, he joined the Space Physics laboratory of the Aerospace Corporation, where he served as the Director of Space Astronomy program from 1971 to 1973 and where he began his long career in investigation of the solar atmosphere using rocket launch instruments, initially at ultraviolet wavelengths and later with X-rays. He came to Stanford as a professor in the department of Applied Physics in 1974 and by 1991 he held a joint appointment in Physics and Applied Physics departments.

During his whole career at Stanford, Art was an active member of the Center for Space Science and Astrophysics and the Astronomy Program, which he chaired from 1977 till 1980. He was in charge of the Student observatory located in the foothills adjacent to the campus, and taught popular observational astronomy courses at different academic levels. But his most lasting contribution to academic life at Stanford was his mentoring of graduate students; thirteen in total, a majority of them from sectors of society underrepresented in science, namely women and African-Americans. Among these was the first female U.S. astronaut Sally Ride.

Art's mentoring and acting as role model extended beyond those in physics and astronomy. He was a leader of the African-American community at Stanford and he served as the informal leader of the black faculty association, which he called, "The Banneker Group". He was also the longest serving member of the advisory committee for the Afro-

American studies program. He served as a successful role model for many of the young African-American assistant professors including Condoleeza Rice.

Art Walker had a remarkable ability to administer committees and focus their efforts. His clear thinking and calm, deliberate approach allowed him to find ways of solving problems amid conflicting views. This ability was recognized at Stanford soon after his arrival when he was appointed Associate Dean of Graduate Studies. He served on many other university and departmental committees, and acted as ombudsperson of the Physics Department. This gift of his was recognized outside Stanford, as well. Throughout his career, Art led or served on innumerable NASA, NSF, and NAS committees. The Walker committee was instrumental in the success of the GONG project and the same committee's recommendations led to the unification of the solar observatories at Kitt Peak and Sacramento Peak into a National Solar Observatory.

President Ronald Reagan selected Art Walker, along with luminaries such as Neil Armstrong, Richard Feynman and Sally Ride to serve on the most important committee in the history of the U.S. space program; the commission investigating the space shuttle Challenger explosion. These services were recognized by NASA during a combined meeting of the National conference for Black Students and the National Society of Black Physicists held at Stanford March 28 to April 1, 2001 only one month before his death. At this event David Bohlin and William Wagner surprised Art with the award of NASA's Distinguished Public Service Medal, in recognition of "four decades of distinguished scholarship, achievements in experimental space sciences and extensive service to NASA and the nation in innumerable advisory and review boards". Art's devotion to these national societies which encouraged and promoted African Americans to enter physics as a profession at all levels. Even in failing health, Art was very proud of the hundreds of blacks he had encouraged and mentored nationally, and many were present, including many of his past students who went on to distinguished positions at universities and research laboratories.

Art Walker thrived in the use of novel techniques in astronomical observations. Soon after his arrival at Stanford he recognized the astronomical potential of the multilayer thin films developed by Troy Barbee, then in the Material Sciences Department of Stanford, for a normal incidence X-ray telescope. In collaboration with Barbee and others, and with the assistance of graduate and sometimes undergraduate students at Stanford, Walker constructed, launched and carried out observations of the Sun's Corona in successive rocket launched payload experiments. The result of the first, launched in 1987, adorned the cover page of the September, 1988 issue of Science Magazine. In 1991 the group launched an instrument with 14 telescopes and in 1994 one with 19 telescopes, each telescope tuned to different narrow band X-rays. The same technology was later used for the instruments on board the SOHO, TRACE and CHANDRA X-ray observatory. And just before his untimely death, Art was initiating a new program of X-ray spectroscopy using the new technology developed by Professor Blas Cabrera of Stanford's Physics Department for detection of dark matter in our galaxy.

Art always appeared calm and had a historical anecdote for each occasion. But he was forceful and did not shrink from facing controversy. He was a strong protector of his territory specially when it came to the affairs involving his teaching and his graduate students. He also did not shrink from responsibilities or from taking on new tasks. With an optimistic confidence, he could always take on one more task; as small as writing a letter or

as time consuming as serving on an important committee. One of the most endearing memories I have of Art is seeing him walking to his car, often late past dinner time, with a briefcase and a midsize suitcase stuffed with work which he expected to complete that night. He was a true gentleman who cared for the well being of others even when this caring and its results did not enhance his professional standing. He was a loving husband to his wife, Victoria, and a wonderful father and grandfather to their three children, and four grandchildren. He enjoyed growing roses.

Committee:  
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