

Benjamin Breneman Snavelly

Benjamin Breneman Snavelly, who expertly merged engineering principles with physics during his diverse and productive career, was born in Washington, DC, in January 1936. He followed his father on a scientific career path; Benjamin L. Snavelly worked for the US Navy on underwater acoustic instruments and techniques.

After receiving his BS in electrical engineering from Swarthmore College in 1957, Ben earned an MS in electrical engineering from Princeton University in 1959 and a PhD in engineering physics from Cornell University in 1962. He worked as an intern at the US Naval Ordnance Laboratory during his undergraduate summers and at IBM during his graduate summers.

Ben spent more than two decades at Eastman Kodak. His responsibilities involved optics, lasers, and materials science. His best-known Kodak contribution was to the early development of the dye laser, including the first demonstration in 1970 of its continuous-wave operation.

Because of his expertise in tunable and high-power lasers, Ben took a sabbatical in 1973–76 to work at Lawrence Livermore National Laboratory. There he coled the laser isotope separation program.

On his returning to Kodak, Ben managed many critical projects in its federal systems division. His efforts led to the development of the first large-area CMOS optical detectors, which are now routinely used in nearly every telescope application and in cell-phone cameras.

Because of its work on large-area mirrors, Kodak produced the primary optics for several major telescope projects. Ben led his team in developing ion-beam figuring in 1988 and making it operational in 1990. It has been called the most important breakthrough ever in optical manufacturing. The mirrors on the Keck telescopes were finished using the process. Ben's other projects included devel-

KEVIN B. MARVEL



oping spy satellite mirrors and the *Hubble Space Telescope's* backup mirror now housed at the Smithsonian Institution.

After retiring from Kodak in 1991, Ben parlayed his experience with telescopic optics and other technology into an eight-year stint as NSF program director for advanced technologies and instrumentation in the astronomical sciences division. He led the planning and funding of numerous projects that resulted in new optical observatories and technology for astronomy. His extensive scientific and technical background, coupled with his knowledge of industrial and government laboratories, proved invaluable. Among his other NSF activities were the continued enhancement of CMOS detectors and the early development of IR array detectors, adaptive optics and the use of laser guide stars, and the use of optical interferometry. He was most proud of efforts to initiate searches for exoplanet systems, a now-blossoming field that has identified and studied thousands of such systems in ever-greater detail.

While at NSF, Ben also spent two years assisting President Bill Clinton's administration on its program to reinvent and simplify how the public and outside organizations interact with the federal government.

Ben's last career stop was at the American Institute of Physics (AIP; publisher of *PHYSICS TODAY*), where for 15 years, beginning in 1999, he served as corporate

secretary. Three of us (Dylla, Lanzerotti, and Marvel) had the pleasure of getting to know Ben as we worked together on various projects. We three most appreciated Ben's wide-ranging experience with how physicists can contribute to our field, whether in academic, industrial, or government settings. Ben's NSF work with the Clinton administration benefited AIP as the institute reinvented and reformed its somewhat ponderous governance structure as an umbrella organization serving 10 scientific societies and their 120 000 members. Ben's quiet, thoughtful advice and counsel was especially helpful to the AIP board chair (Lanzerotti).

Ben was a passionate and talented sailor and pilot. His pride and joy was a 36-foot Sabre named *Iteration*. Ben, with his son and others, won several sailing races with *Iteration*. He greatly enjoyed planning summer cruises on Lake Ontario with family and friends. His favorite location was near the small Canadian island of Waupoos. Some of his and his sailing companions' fondest memories were of watching the Moon rise over the island on a cool night, after an afternoon thunderstorm, and enjoying a glass of wine in the cockpit. One moonless night while gazing at the myriad of stars, Ben was shown the faint smudge of light from the nearby Andromeda galaxy, visible to the naked eye under the right conditions. Ben grabbed his binoculars and was in awe at what he was seeing for the first time. Optics, astronomy, and his love of science came together in that moment.

When Ben retired for good in 2014, he spent more time doing his two favorite pastimes: building and flying model airplanes and sailing his boat. We and all of Ben's colleagues, friends, and family lost Ben when he died peacefully in his home in Alexandria, Virginia, on 5 September 2022.

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