

ences Solid State Panel on the uses of synchrotron radiation mentioned Tantalus as a possible source of such radiation. Recognizing a unique opportunity, Mills and Rowe converted Tantalus into a light source. In 1968, it became the world's first source dedicated to the production and utilization of synchrotron radiation, supported first by the Air Force Office of Scientific Research and then by the National Science Foundation.

Although there were doubts at the time that the demand for synchrotron light would be enough to support it, Tantalus—under Ed's supervision—became the center of an enormously successful group of users. Ed played a key role in recruiting those users, convincing them to do cutting-edge experiments away from their home institutions under conditions that were sometimes challenging. Ed's energy, skill and judgment were responsible for the success of the program at Wisconsin. Significantly, Ed always did everything he could to ensure the success of his users, and the SRC became known as a reliable, user-friendly international resource. Ultimately, Tantalus became the prototype for dedicated storage rings. A section of it has been acquired by the Smithsonian Institution for a future exhibit.

With NSF support in the late 1970s, Ed and his small team designed and started construction of a larger electron storage ring, Aladdin, with a maximum energy of 1 GeV. Aladdin was eventually commissioned and has provided synchrotron light for more than a decade with the same user friendliness and reliability that characterized Tantalus.

In 1993, during the 25th Annual Users Meeting of the SRC, Ed was presented with letters from a worldwide community of synchrotron radiation experts. Those letters spoke volumes about Ed's contribution to the field, identifying him as the "Father of Synchrotron Radiation." It was written that Ed "really made a difference" and "he changed the face of science."

Ed was well known for his humor and his skill as master of ceremonies at the annual meetings of the SRC Users Group. He will be sorely missed by his many friends and colleagues from around the world.

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Bascom W. Birmingham

Bascom W. Birmingham, an internationally known cryogenics engineer and former director of the National Bureau of Standards in Boulder died on 5 September 1996 in Perrysburg, Ohio.

He was born on 20 June 1925 in Grand Island, Nebraska. After serving in the US Navy in the Pacific in World War II, Bascom studied at MIT, where he received a BS (1948) and MS (1951) in mechanical engineering.

He began his professional career as a design engineer with the consulting firm of W. R. Holway and Associates in Tulsa, Oklahoma, in 1948, and joined the cryogenics division of the NBS (now the National Institute of Standards and Technology) in Boulder, Colorado, in 1951. He was the first



BASCOM W. BIRMINGHAM

full-time employee at the new Boulder laboratory and worked there until he retired in 1983. After retirement, Bascom worked as a consultant to industry, to the Air Force and to the National Aeronautics and Space Administration on cryogenics problems.

Bascom made notable contributions to cryogenic technology. He led the design and construction at NBS of the world's first large-capacity hydrogen liquefier and headed the engineering team that designed and built the first large liquid-hydrogen bubble chamber at Lawrence Berkeley Laboratory. In his 1968 Nobel Prize lecture, Luis Alvarez formally recognized Bascom's contribution.

Bascom also made significant contributions to the development of high-speed turboexpanders used in cryogenic refrigerators and liquefiers. In 1968, he coedited the NBS monograph

Technology of Liquid Helium.

Between 1956 and 1963, Bascom headed the cryogenic processes section of the cryogenics division at NBS and became chief of the division in 1963. In 1968, he became deputy director of the NBS Institute for Basic Standards and administrative executive officer of the NBS Boulder lab, and in 1971 he was appointed the lab's director.

Bascom devoted much of his time to development of the cryogenic engineering community. He was program chairman of the first Cryogenic Engineering Conference, which was held in Boulder in 1954, and was a member of the CEC board for many years. He belonged to the International Cryogenic Engineering Committee and served as president of Section A of the International Institute of Refrigeration. He was the American editor of *Cryogenics* from 1968 to 1983.

Bascom was a community leader in Boulder, serving on the Boulder Community Hospital board of directors, and participating actively in various civic organizations.

Bascom's professional and personal activities gained him many friends around the globe, and he will be missed by all of them. The cryogenics community has lost a leader and champion, and we in Boulder have lost a good friend and mentor.

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Ales Strojnik

Ales Strojnik, a professor emeritus in the physics department at Arizona State University, died from a heart attack on 6 November 1995 at the age of 74.

Ales received a bachelor of science diploma in electrical engineering from the University of Ljubljana, in Slovenia, in 1944. He pursued graduate studies in aerodynamics there and in electron optics at the University of Cambridge. Upon return from England in 1957, he was awarded a doctor of science degree from the University of Ljubljana. There, as an assistant professor, he designed and constructed his own electron microscope, the first of many. Thus, Yugoslavia (of which Slovenia was then part) became the fifth country in the world to produce its own electron microscope. Becoming an associate professor in 1964, Ales established an electron optics group