



Lincoln D. Debus

KURT H. DEBUS

1908-1983

BY CHRISTOPHER C. KRAFT, JR.

KURT H. DEBUS, the outstanding twentieth-century pioneer in the field of space vehicle launch operations, died at Cocoa Beach, Florida, on October 10, 1983. Dr. Debus had retired in 1975 as Director of the National Aeronautics and Space Administration (NASA) John F. Kennedy Space Center (KSC), the launch facility for the space vehicles that carried men to the first landing on the Moon, continued manned lunar explorations, delivered to orbit the first manned Space Workshop, and currently serves as launch and landing facility for the NASA Space Transportation System.

Dr. Debus devoted his life to advancing the technology of launch vehicle development and flight and to maintaining this Nation's leadership in space and aeronautics. During his lengthy career he achieved outstanding success in the innovation and application of new techniques in the design, development, and operation of missile and space vehicle launch facilities, equipment, and operations. His pioneering efforts profoundly influenced the progress of technology in national defense and space exploration. He was an inspiration to his colleagues, to members of the engineering and scientific communities, and to Space Age youth whom he strongly influenced in their careers.

Dr. Debus's contributions to the U.S. space program in launch vehicle development and flight are of historic significance. The leadership he provided in the development of launch concepts for space vehicles gained for him worldwide respect. He was personally

responsible for many of the innovations in space vehicle preparations that led to the extremely high reliability of this Nation's manned launch vehicles. Dr. Debus forged a concept for the design of space vehicle assembly and launch facilities that could only be envisioned by an individual of stature far beyond the dreams and aspirations of many of his associates at the time. He had a keen grasp of the necessary and important and drove most directly for the best engineering solution. Dr. Debus was a true pioneer, unequaled as a technical innovator. His knowledge and expertise led to ideas, concepts, and, later, to applications that are continuing to assure this Nation of its leadership in large launch vehicle facility development and operations.

Dr. Debus was born in Frankfurt am Main, Germany, on November 29, 1908, and received all of his formal education in Germany. He attended Darmstadt University where he earned his initial and advanced degrees in mechanical and electrical engineering. He served as a Graduate Assistant on the faculty for electrical engineering and high-voltage engineering while studying for his master's degree. In 1939 he earned his engineering doctorate with a thesis on surge voltages and was appointed Assistant Professor of Electrical Theory at the university.

At this stage of his career, Dr. Debus joined the Wernher von Braun team on the Baltic coast in Germany and helped develop the V-2 rocket after the beginning of World War II. He came to the United States with Dr. von Braun's team in 1945 and committed his expertise in rocketry to the service of the embryonic American space program.

Dr. Debus was a central figure in the Redstone Ballistic Missile Program of the 1950s, the U.S. Army's first missile system equipped with a nuclear warhead. As a key member of the von Braun space team, located at the Redstone Arsenal in Alabama, he organized and directed the Missile Firing Laboratory and was responsible for the critical efforts in development of the Redstone, Jupiter, Pershing, Jupiter-C, and Juno vehicles. Dr. Debus was an essential member of the team that placed the *Explorer I* in Earth orbit, propelled by a Jupiter-C launch vehicle, inaugurating the Space Age for the United States. He supervised the development and construction of rocket

launch facilities at Cape Canaveral, Florida, and led the launch operations team that sent the first American into space in 1961.

In 1962 Dr. Debus became Director of the Launch Operations Center in Florida, later to become NASA's John F. Kennedy Space Center. Under his leadership more than 150 missiles and space vehicles were placed into orbit from KSC, including 31 manned flights from the Mercury, Gemini, Apollo, Apollo-Soyuz, and Skylab programs. The historic manned Apollo flights to the Moon, 1968-1972, utilizing the 363-foot, 7.5-million-pound thrust Saturn V launch vehicle, were all launched under his direction. As Director of the Kennedy Space Center, Dr. Debus guided development of the mobile concept applied to the preparation of the Saturn-class vehicles and transportation of the fully assembled space vehicle to the launch site. He developed KSC's Vertical Assembly Building, the largest spacecraft/launch system assembly building in the United States, and the extensive launch facilities that make up the Kennedy Space Center. He organized and directed the government-industry launch organization for the Nation's Apollo and Skylab programs. His last official act prior to retirement was to officiate in the ground breaking for the 18,000-foot KSC landing strip that the space shuttle used for the first time in returning to Earth from its successful mission in February 1984.

In recognition of his unique accomplishments, a number of honors were conferred upon Dr. Debus. He was given the U.S. Army's highest civilian decoration, the Exceptional Civilian Service Medal; the Scott Gold Medal of the American Ordnance Association's Missile and Aeronautics Division; and NASA's Outstanding Leadership Award. In July 1965 he was awarded the first Pioneer of Wind Rose Award, Order of the Diamond, by the International Committee of Aerospace Activities for his historical contributions to launch technology and science. In February 1967 he was awarded an honorary Doctor of Laws degree by Rollins College. He was also named co-winner of the American Astronautical Society's Space Flight Award for 1967. In January 1969 he received the NASA Distinguished Service Medal for his participation in the first manned lunar-orbit mission, *Apollo 8*. In September 1969 he received his second Distinguished Service Medal from NASA in recognition of his contribu-

tions to *Apollo 11* and man's first landing on the Moon. In December 1969 he was awarded an honorary Doctor of Engineering Science degree by Florida Technological University. He was elected to the National Space Hall of Fame in 1969. He received an honorary Doctor of Science degree from the Florida Institute of Technology in September 1970. He was awarded the Commander's Cross of the Order of Merit of the Federal Republic of Germany in 1971. In February 1974 he was signally honored as recipient of the Louis W Hill Space Transportation Award, presented by the American Institute of Aeronautics and Astronautics.

Dr. Debus was a Life Member of the American Ordnance Association; Fellow, American Institute of Aeronautics and Astronautics; Honorary Member, Instrument Society of America; Advisory Member, Marquis Biographical Library Society; Honorary Member, Herman-Oberth Gesellschaft; Honorary Member, Deutsche Gesellschaft für Raketentechnik und Raumfahrt, e.V.; Ex Officio Member, Florida Council of 100, from 1969 to 1971; and member of the Advisory Board of the British Interplanetary Society. He was elected to the National Academy of Engineering in 1975. He was a member of the Senior Advisory Council of the National Space Institute, and a member of the Council of Science and Technology of the Man and Space Committee.

Dr. Debus was truly a unique and special individual who was a warm friend and confidant to all who worked with him in those sparkling, adventurous days of the early space program. Many of the astronauts were particularly fond of Dr. Debus and knew full well of his concern for their safety. Dr. Debus was one of those sensitive human beings who possessed the qualities of leadership that motivated his employees to the highest levels of attainment. He was the expert in his field within the Free World. He pursued his responsibilities with a vigor and tenacity that sought out and overcame the most difficult management and engineering problems and provided solutions that ensured the utmost reliability of the spaceflight vehicles flown from the Nation's launch center. The facilities of the Kennedy Space Center, including the huge Vertical Assembly Building, the mobile crawler vehicle for transport of space vehicles to the launch site, and the efficient design of the total launch complex, serve as a monument to Dr. Debus and his illustrious career.

