IN MEMORIAM

DALE GAYLARD BETTIS

When Dr. Dale Gaylard Bettis joined the faculty at The University of Texas at Austin in 1970, it represented a homecoming by a long-time resident of Austin and a former student. Dr. Bettis was born and raised in Austin, the member of a family which had developed a successful appliance business in the area over a number of decades. He entered The University of Texas Department of Mathematics and received a B.S. degree in Mathematics in 1961. Then he entered the College of Engineering, specializing in Engineering Mechanics, and earned a Master of Science degree in 1963. While an undergraduate student, he was a research assistant in Astronomy and later taught Mathematics at the University between the years 1961 and 1962. During summers, Dr. Bettis worked as a research engineer, specializing in orbital mechanics at the Jet Propulsion Laboratory in Pasadena, California, and perhaps it was these early experiences with astrodynamics, and also his background in mathematics, that led him to pursue graduate work in the field of Astronomy at Yale University. He earned a Master of Science degree in 1967 from Yale and later a Ph.D. in Astronomy in 1969, with a specialty in the theory of integration of the differential equations of celestial mechanics using numerical techniques. His dissertation was directed by Dr. Edward Stiefel of the Swiss Federal Institute of Technology under a joint program with Yale University and, upon completing his Ph.D. in Astronomy, Dr. Bettis continued his research as a Post-doctoral Fellow in Applied
Mathematics at the ETH in Zurich between 1969 and 1970. In 1970, he returned to Austin as an Assistant Professor of Engineering Mechanics and continued his research in numerical analysis and, in particular, in the numerical solution of ordinary differential equations occurring in the field of orbital and celestial mechanics.

During his tenure at The University of Texas at Austin, Bettis developed an active program of research. He continued his work in applied mathematics and numerical analysis, and made a number of important contributions in celestial and orbital mechanics concerning the numerical integration and regularization of differential equations describing the problem of many-body gravitational systems. He supervised a number of post-graduate students, three of whom earned a Ph.D. He was promoted to Associate Professor of Engineering Mechanics in 1974, a position which he held until 1981, when he terminated his full-time position with The University and assumed the position of Adjunct Professor of Engineering Mechanics, which he held until the time of his death.

Dr. Bettis was a member of the Texas Institute for Computational Mechanics at The University of Texas. While at the Institute, he collaborated with other Institute members on research on numerical methods and computing. Having studied in Europe, Bettis entertained many European visitors and professors and he spent sabbaticals in Germany with visits in Switzerland. Bettis was widely published in numerical mathematics, particular on the development of Runge-Kutta methods for orbital and celestial mechanics. His major works were published in the prestigious Numerische Mathematik, in Celestial Mechanics, and other major international journals.
Dr. Bettis had an active and diversified life. He was a U.S. Naval officer, attending Officers Candidate School at Newport, Rhode Island, and served in active duty in the U.S. Navy between 1963 and 1966. He attended the Officers Submarine school at New London, Connecticut, and qualified as a submarine officer on the USS Clamagore. Also, while on active duty in the Navy, he served as Mathematics instructor at the U.S. Naval Academy in Annapolis, MD. From 1963 until the time of his death, he was active in the U.S. Naval Reserve and held the rank of Captain. He also served as Senior Field Officer at the Office of the Chief of Naval Research in Washington, D.C. and ONR Europe.

For nearly 20 years, Bettis was owner and operator of the Goeth Ranch in Blanco County and, in 1981, he opened the Cypress Valley Winery on the ranch, making him one of the first to enter the growing Texas wine industry. During this time, he still taught part-time at The University of Texas, participated in Navy affairs and was a consultant for Shell Oil Company in Houston, Texas. He continued his interests in numerical analysis and orbital mechanics during this period.

William H. Cunningham, President
The University of Texas at Austin

H. Paul Kelley, Secretary
The General Faculty

This Memorial Resolution was prepared by a Special Committee consisting of Professors J.T. Oden, Chairman, Dr. Victor Szebehely, and Dr. R. Duncombe.
PUBLICATIONS OF DALE GAYLARD BETTIS, 1937-1989


Recent Development of Integrating the Gravitational Problem of N-body. Astrophysics and Space Science, 13, p. 365-376 (with V. Szebehely).


