mass planet located approximately 40 AU from the star was responsible for the structures seen in the Fomalhaut disk. The Fomalhaut paper in the special Spitzer edition of the Astrophysical Journal is dedicated to Beth’s memory.

Beth was an enthusiastic and cheerful colleague who made friends everywhere she worked. In addition to developing friendships and collaborations at JPL, she became a valued member of the Spitzer/MIPS instrument team at the University of Arizona. She was active on the Committee on the Status of Women in Astronomy of the American Astronomical Society, publishing an article on “The Postdoc Perspective on the Women in Astronomy II Conference” in the January 2004 issue of STATUS, the CSWA magazine, and serving as an associate editor of that magazine. She was an inspiring role model for young women in science, befriending and mentoring a number of Caltech women undergraduates, as well as making numerous appearances in K-12 classrooms for science outreach. She pursued her love of plants (cactus in particular), cats and fish, spending her spare time lovingly tending her small garden.

Her friends and colleagues will remember Beth for her scientific contributions, but also for her courage as we realize that she worked beside us completely unshadowed by the heart condition that would take her in so sudden and untimely a manner. We take solace in the knowledge that at the moment of her passing, she was pursuing her passion for astronomy, working among colleagues who valued her work and her friendship, that she had a supportive and loving family with parents on the East Coast and close relatives on the West Coast, and that in her fiancé, Todd Rope, she had found a kindred spirit.

Charles Beichman
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CHARLES LATIF HYDER, 1930 - 2004

My friend and colleague, Charles Hyder, was a true physicist with a sound intuitive grasp of fundamentals in modern physics and the underlying mathematics. I admired his knowledge of the history of modern physics and quantum mechanics when we discussed contemporary problems in interpreting solar observations. He had the ability to present his ideas clearly and persuasively to both students and his colleagues. His insatiable curiosity about life in general led him to consider the effects of nuclear weapons development on the human race. Appreciation of the biological effects of radioactive materials produced in the course of weapons and power reactor development led him to a more public career beyond traditional research.

Charles Hyder was born April 18, 1930 in Albuquerque, New Mexico. He graduated from Albuquerque High School and served in the Air Force during the Korean War. He received a BS and MS in physics from the University of New Mexico (1958, 1960) and a PhD in astrophysics at the University of Colorado (1964). His positions included the Department of Astronomy and Institute of Geophysics at UCLA (1964-65), Sacramento Peak Solar Observatory (1965-1970) and the Goddard Space Flight Center (1970 – 1977). He also taught at the University of New Mexico (1970-1977) and was active on the Solar Maximum Mission science team (1970-1977, 1980-1984). He was married twice with both marriages ending in divorce. He and his first wife Ann had three children (Paul, Roxanne and Querida) and he and his second wife Laurie had a son Niels.

Charles Hyder’s professional career in solar physics began in 1961 during his graduate studies at the Department of AstroGeophysics of the University of Colorado and continued until 1983 when he chose to follow his convictions to expose the threat of nuclear proliferation. His early research was in the study of the quantum mechanics of polarized light produced in the presence of magnetic fields. Application of this work to interpretation of solar spectra was a basic theme in fifty-one papers published between 1963 and 1983. Charles’ interest in solar prominences and flares led him to study the physics of in-falling plasma in solar active regions and the production of the so-called “two ribbon” flares associated with active region prominences. His final work in solar physics was done on the Solar Maximum Mission (SMM) in collaboration with colleagues at Goddard Space Flight Center and Marshall Space Flight Center.

After 1983, Charles’ devoted his full energy to exposing the threat of nuclear weapons and reactor by-products in the biosphere. His was a very public crusade with a seven month fast in Lafayette Park, Washington D.C. and a vigorous opposition to the Waste Isolation Pilot Plant (WIPP) at Carlsbad, New Mexico. His analysis emphasized the need to understand convection of “hot” containers of radioactive waste in the WIPP salt bed. He concluded that the containers would eventually emerge at the surface and be a biological threat. His greatest fear was that dispersal of plutonium in small amounts worldwide was inevitably leading to biological mutation and destruction of life as we know it.

We all remember his imposing stature and the strength of his arguments in discussions of life, physics, and the dangers

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of radioactive materials dispersed on the Earth. He led an unconventional life where he truly reveled in learning and earnestly worked to make a difference.

Oran R. White
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HENRY EMIL KANDRUP, 1955-2003

Henry Emil Kandrup died on 18 October 2003 at his home in Gainesville Florida. Henry was a theoretical astrophysicist specializing in the application of chaotic dynamics to stellar systems. At the time of his death, Henry was a Professor at the University of Florida where he had taught for 13 years.

Henry was born in Manhasset, New York on July 24, 1955 and spent most of his childhood in Great Neck. His parents, Jytte and Fred, were immigrants from Denmark where his father had worked as a silver smith. Henry was a precocious child, skipping both third and fifth grades. With the help of Sidney Spivack, a professor of sociology at Columbia University, his parents enrolled Henry in the Brooks Preparatory School in Andover, Massachusetts. After graduating at age 16, Henry enrolled at Cornell, transferring to Princeton the following year.

Henry’s parents adored their only child and worked hard to provide him with intellectual opportunities. Henry became an accomplished musician (organ, piano, French horn) and linguist (English, Danish, German) and was a passionate devotee of opera and ballet.

Henry received his PhD in 1980 from the University of Chicago, where his thesis advisor was James Ipser. He taught at Oakland University in Michigan and Syracuse University in New York before coming to the University of Florida in 1990.

Henry was sui generis. He shunned conventionality in his personal appearance and in his public demeanor, and always chose forthrightness and candor over polite silence. But to those of us who knew Henry well, his bluntness was a reflection of his intellectual consistency. Henry always said exactly what he thought, both in his published work and his public presentations, and never compromised himself for the sake of appearances. Nothing that he said or wrote was less than fully thought out.

Henry’s PhD thesis was entitled “Stochastic Problems in Stellar Dynamics,” and most of his subsequent research was in this field. Motion in stellar systems can be stochastic for three reasons: deflection of trajectories by close encounters; non-integrability of the smoothed-out potential; and an oscillating mean field. Henry made important contributions to our understanding of all three sorts of chaos. In a series of papers from the early 1990’s, Henry developed the idea of “chaotic phase mixing,” the process by which an ensemble of points evolves toward a uniform coarse-grained population of phase space. Prior to Henry’s work, the evolution of stellar systems to a steady state was attributed loosely to “violent relaxation,” defined as phase-space repopulation driven by changes in the smooth potential. Henry pointed out that changes in the gravitational potential do not by themselves constitute relaxation; at best, they can contribute to relaxation by inducing a degree of chaos in the stellar trajectories. But it is the chaos that is responsible for the mixing and hence for the approach to a steady state.

Among his other important contributions to stellar dynamics were a formal demonstration of the equivalence of Landau damping and phase mixing, and a proof (with J. F. Sygnet) of the linear stability of a broad class of stellar systems. Shortly before his death, Henry was working on the chaotic dynamics of charged particle beams and on the influence of binary super massive black holes on orbital motion in galaxies.

Henry was one of the principle organizers of more than a dozen workshops on non-linear dynamics in astronomy and astrophysics that were held at the University of Florida. At the time of his death, he was negotiating with Springer Verlag over publication of a monograph, Hamiltonian Galactic Dynamics.

Henry was famous for the energetic quality of his lectures. Like many other excellent teachers, he drew upon his research to enliven his undergraduate teaching. Under Research Interests, his web site lists “creative utilization of playdough, margaritas, and spirographs in graduate and undergraduate teaching.” Henry received numerous teaching citations and awards; he was consistently voted the best teacher in the department by his University of Florida students, and his Introductory Astronomy courses at Syracuse were cited as “Recommended Courses” in Lisa Birnbach’s New and Improved College Book for 1990.