IN MEMORIAM

Jürgen H. Rahe

A remarkable man left us on June 18, 1997, when Jürgen Rahe was killed in a freak accident, a tree falling on his car in a severe windstorm. He became in succession a student, a scientist, an educator, and an administrator, and he remained all of these to the day he died. He was a man who retained absolute scientific integrity in highly political environments, a man whose goal was to accomplish the best for science in the least possible time, not to pursue the rule book looking for reasons to delay. He cared about science, and he cared about people, and he accomplished a great deal for both in his foreshortened career.

Jurgen H. Rahe was born in Melle, Germany, a small city roughly half way between Dusseldorf and Hamburg, on June 30, 1939. His formal student days gave him a degree in physics and mathematics, a PhD in astronomy from the University of Hamburg (1966) and a Dr. rer. nat. habil. (the European degree that qualifies one to hold a professorship in a university) from the Technical University of Berlin (1971). The subject of his PhD thesis was a study of the plasma tails of comets entitled "Investigation of the structure Of comets", the work done under Prof. Karl Wurm, one of the outstanding cometary scientists of the middle part of this century. His habil. thesis was entitled "Observations of Comets and their Interpretation."

After finishing his PhD work, Rahe accompanied his mentor to GSFC (Goddard Space Flight Center) in 1966, he as an NRC (National Research Council) RRA (Resident Research Associate) and Wurm as a senior NRC RRA. During this period his papers began appearing in "Icarus" and "The Astronomical Journal," as well as in "Zeitschrift fur Astrophysik" and "Astronomische Nachrichten." He 'was lead author, with Bertram Dorm (of GSFC) and Karl Wurm, of the much referenced "Atlas of Cometary Forms" published by NASA in 1969. He continued his fruitful associations, during short visits and full sabbaticals, with many GSFC scientists throughout his career, especially with Dorm, John C. Brandt, and Malcolm B. Niedner, Jr.

Rahe remained in Berlin at the university's Institute for Astrophysics for three years following his habilitatis work, then moved to the Astronomical Institute of the University of Erlangen-Nurnberg in Bamberg. He was elected to Commission 15 (Comets) of the IAU (International Astronomical Union) in 1970 and immediately named its secretary, a position he held until elected vice president of the commission for the next three years in 1985. Rahe had the rather unique experience of chairing commission 15 meetings through three terms, acting as president in the absence of both the president and vice president in 1985 in New Delhi, acting as president in the absence of the president in Baltimore in 1988, and acting in his own right as president in 1991 in Buenos Aires.

In Bamberg in the fall of 1974 he settled into academic life, teaching mornings at the university in Erlangen and spending the remainder of the day at the institute in Bamberg, where he became

director of the Astronomical Institute as well as its Dr. Remeis Observatory. While director at Bamberg he often made it possible for then Eastern Bloc astronomers to come west for a time, and he began a extended fruitful collaboration with Prof. V. Vanysek of Charles University in Prague, Czechoslovakia.

Comets remained Rahe's first love, but while in Bamberg he also produced papers on stellar atmospheres, binary stars, variable stars, and novae, and he made charming Bamberg, a place where modern life exists rather comfortably in an almost medieval city, into a choice site for astronomical symposia. During the 70s Rahe began to acquire data from ESO (European Southern Observatory) facilities in Chile, radio data from Bonn, and space data from the IUE (International Ultraviolet Explorer) satellite for his research. In the early 80s he became a PIA (Paticle Impact Analyzer) Co-I on ESA'S (European Space Agency) Giotto mission to Comet Halley.

In 1979 Louis Friedman of JPL (Caltech's Jet Propulsion Laboratory) proposed a study to investigate the best way to maximize the scientific value of ground-based and spacecraft study of Comet 1 P/Halley during its 1985-86 apparition. The small JPL study team visited GSFC to seek the advice of Brandt, Rahe (who was there on sabatical) , and others. The team found that Brandt and Rahe already had created a network of observers to cooperate in the study of Halley's plasma tail, their favorite subject, and that they fully endorsed the idea of extending cooperation to all fields of cometary study. To make a very long story short, NASA (National Aeronautics and Space Administration) supported creation of the IHW, the International Halley Watch, with Rahe and Ray L. Newburn, Jr. as Co-Leaders for the eastern and western hemispheres respectively. Rahe's knowledge of IAU workings and his natural diplomatic skills in dealing with every sort of person were a tremendously important asset in the overall success of the IHW. During this period, as a co-leader of the IHW Rahe also attended the meetings of the IACG (Inter-Agency Consultative Group) , a forum in which cooperation in the study of P/Halley was discussed by ESA, NASA , Intercosmos (then the Soviet organization concerned with cooperative efforts in space) , and ISAS (Institute of Space and Astronautical Science, a Japanese space agency) .

Rahe was known at NASA headquarters from his many visits at GSFC , but he became much better known during his involvement with the IHW and the IACG. His knowledge of astronomy and astronomers worldwide and of both the European and US scientific-political scenes would make him an obvious asset to NASA, a very desirable scientist to try to attract to NASA headquarters, either temporarily or permanently. In 1985 Rahe took a leave of absence from his university and accepted a position at JPL from which, as a non-US citizen, he could be detailed to work at NASA headquarters as Discipline Scientist for the planetary astronomy program. His knowledge, diplomacy, and extremely hard work resulted in a rapid series of promotions, and after five years he became a US citizen and a regular NASA employee. At the time of his death, Rahe was the Program Science Director for Solar System Exploration, one of fOUr directors reporting directly to Wesley T. Huntress, Jr., NASA Associate Administrator for the Office of Space Science.

Rahe always seemed to find ways to help where it counted, at Bamberg, in the IHW and IACG, but at NASA headquarters he was in a position to accomplish many significant things for the entire space science community. He was NASA Program Scientist for Clementine, successfully bringing together NASA scientists with Air Force engineers and operations crews. He played a major role in initiating the Discovery series of low cost planetary missions and was the first Program Scientist on the NEAR (Near Earth Asteroid Rendezvous) mission, the first Discovery class mission. He was Program Scientist on NASA parts of Rosetta, the ESA mission to Comet P/Wirtanen. He was Associate Program Scientist for the Hubble Space Telescope. He was responsible for major aspects of NASA planning for Galileo (in orbit around Jupiter) and Cassini (on its way to Saturn) as well as the very successful Pathfinder, the second Discovery class mission, now operating on Mars.

Back on the Earth's surface, Rahe played the major role in NASA becoming a partner in the Keck 10-m telescopes, the world's largest. He worked hard to maintain NASA funding for planetary scientists and to try to create positions for young scientists entering the field. He was editor of "Astrophysics and Space Science" and on the editorial board to two other journals. He was an editor of several large scale atlases and proceedings, including atlases of 1?10 and 1986 Halley images and the proceedings of the 1989 Bamberg comet conference. He was on the organizing committee and/or program committee of numerous internationai conferences. It always amazed his friends where he found time for it all, because he never seemed rushed or harried, and he always seemed willing to take on yet another thankless task.

One could continue, listing some of the 100+ papers conference proceedings, reports, etc. to which he contributed. One could note the study he initiated to map out plans for coming decades in space . None of these would capture Rahe the man", the loving husband and father, however. How to describe someone who was always fun to be with, even in difficult times and amidst intense work. Rahe never forgot a friend, and everyone was his friend. He cared about friends in professional trouble and tried to help. He could be very serious, but never too serious. In tense times he showed a pixieish sense of humor capable of delivering an outrageous statement with a poker face, a face that didn't really let you be sure you had just been zinged until the inevitable broad smile followed, after a few seconds to let you wonder! His death was felt more acutely by more people at this laboratory than anyone in the undersigned's memory. He will not be forgotten as long as his multitude of friends live or planetary science continues.

Ray I,. Newburn, Jr.
Jet Propulsion Laboratory
California Institute of Technology
October 30, 1997