

Ernst K. Zinner (1937-2015)

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Ernst K. Zinner, a remarkable scientist who bridged the worlds of astrophysics and meteoritics, died on July 30, 2015, following a twenty-year battle with mantle cell lymphoma. He pioneered the study of presolar stardust grains in meteorites, which are literally condensed bits of stellar matter that can be studied in laboratories and provide unprecedented detail on nuclear processes in the cosmos. An Austrian by birth, Prof. Zinner received a PhD in high-energy Physics at Washington

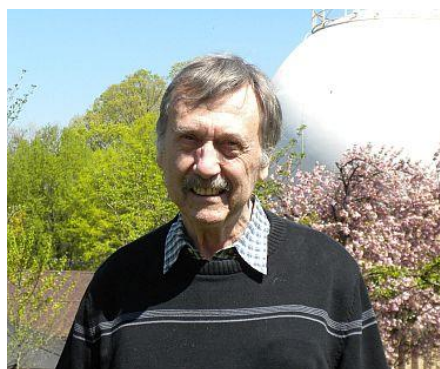


Fig. 1. Ernst Zinner in 2010.

University in St. Louis, MO (USA) and remained there for his entire career. After designing a cosmic-ray experiment for the Moon, he turned to the development of Secondary Ion Mass Spectrometry (SIMS) as a promising tool for elemental and isotopic analysis of extraterrestrial materials. In 1982, he used SIMS to show that dust particles collected in the stratosphere had extreme enrichments in deuterium and were likely cometary in origin. Five years later, in collaboration with Edward Anders and colleagues at the University of Chicago, he discovered microscopic SiC grains in meteorites with carbon and nitrogen isotopic ratios reflecting pure nucleosynthetic processes, spawning the detailed study of presolar stardust. For the next three decades, Zinner worked tirelessly to identify and characterize an increasing variety of presolar grains and exploit their scientific potential. He forged strong collaborations with nuclear astrophysicists around the globe to link the isotopic results obtained from the meteoritic grains to models of stellar evolution and nucleosynthesis, with spectacular results. He was a frequent participant in Nuclei in the Cosmos and other nuclear astrophysics meetings, and will be missed as a collaborator, mentor, and friend to legions of scientists. Ernst was also a passionate lover of music and talented musician and played harpsichord weekly for many years with a chamber-music group and learned cello late in life along with his young son, Max Zinner. He is survived by his son and his wife, Dr. Brigitte Wopenka, an accomplished chemist.