News of MRS Members/Materials Researchers

Ferdinand A. Kröger died on March 17, 2006, in Encinitas, California. He is survived by his former wife Elisabeth J. Kröger-Hofdijk, son Frank, daughter Catharine, granddaughter Solange, and grandsons Mathew and Robert. Born in Amsterdam in 1915, he received his doctorate degree in physical chemistry from the University of Amsterdam in 1937 at the age of 22. Kröger's early work was in luminescence in solids. In 1940, he reported the first observation of a series of emission peaks below the absorption edge that are spaced apart by a longitudinal phonon energy in the II–VI compounds. He summarized the early work in his book, *Some Aspects of Luminescence of Solids*, published in 1948 by Elsevier. In 1964, after research positions at Philips, in the Netherlands, and with Mullard Research Laboratories in the United Kingdom, Kröger moved to the United States with his family. He became a founding professor of the Materials Science Department at the University of Southern California (USC). He directed doctoral dissertations of his students in II–VI compounds and oxides. Many of his students went on to occupy key positions in leading industrial research laboratories at AT&T, IBM, 3M, and Aerojet Systems. Others took the entrepreneurial route, establishing their own small companies. Kröger was a recipient of numerous awards, including the USC Viterbi School of Engineering Research Award and the Chandon Gold Medal from the French Mineralogy Society. He was elected to the Royal Dutch Academy of Sciences.

Don Smyth, a professor at Lehigh University, said, "Professor Kröger was one of the intellectual giants in the field of defect chemistry, as he built on the pioneering work of Carl Wagner and Walter Schottky that began in the early 1930s. One of his lasting contributions was his participation in the development and promotion of a systematic and logical scheme of defect notation known as Kröger–Vink notation, which is now universally used. It brought order to a chaotic mix of strange notations that had previously been used. He also promoted the use of Brouwer approximation of charge neutrality to develop the graphical representation of defect concentrations as a function of the nonmetal/metal activity in compound crystals now known as Kröger–Vink diagrams. He summarized his work in his monumental monograph, *The Chemistry of Imperfect Crystals* (a wonderful title). I had the privilege of meeting Professor Kröger at a number of conferences and of discussing some of our own work with him. His approval was a matter of great pride to me. He leaves behind an enduring record of achievements."

The legacy of Kröger's passion for understanding and correlating the physicochemical properties of materials to their defects, or "imperfections," as he called them, is of paramount importance in the development and manufacture of modern-day optoelectronic and microelectronic devices.

DUTT BULUSU, FRANK KROGER, AND H.R. VYDYANATH

News of MRS Corporate Affiliates/Materials Institutions

Brown University and **Oak Ridge National Laboratory** (ORNL) have established a collaborative relationship to advance research and teaching, with an emphasis on materials science. Under the memorandum of agreement, the two institutions can exchange faculty and conduct joint research.

Bruker BioSciences Corp. (www.bruker-biosciences.com) has announced an agreement to acquire Bruker Optics Inc. for $135 million in cash and stock.

Electron Energy Corp. (www.electronenergy.com) has been awarded a **Small Business Innovation Research (SBIR) Phase II** contract by the National Aeronautics and Space Administration (NASA) to continue researching high-temperature magnetic bearings technology.

The **Johns Hopkins University** has launched its Institute for NanoBio-Technology, working toward major advances in medicine by developing new diagnostic tools and treatments based on interdisciplinary research conducted at the atomic or molecular level.

Synkera Technologies Inc. (www.synkera.com) has been awarded a **Small Business Innovation Research (SBIR) Phase II** grant from the National Science Foundation (NSF) for the development of advanced membranes for hydrogen separation, and a **Small Business Innovation Research (SBIR) Phase I** grant from the U.S. Air Force for the development of advanced sensors to identify and quantify contaminants in cockpit air. □

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