

we hear that

fellowship will facilitate his research on luminescent photoelectrical cells.

GTE laboratories, Inc., has hired **Gary M. Carter** to do research in its Advanced Technology Laboratory, Waltham, Mass. He was previously employed by MIT's Lincoln Laboratory.

Claud H. Lacy, recently an assistant professor at Texas A&M University and **Peter W. Milonni**, recently senior staff physicist in the electro-optical division of Perkin-Elmer Corp, are now assistant professors of physics at the University of Arkansas.

Louis R. Testardi has left Bell Laboratories to become assistant director for Materials Science and Engineering, NASA, Washington, D.C.

Case Western Reserve University has appointed **Gary S. Chottiner**, formerly of the University of Maryland, and **Hans J. Van Himbergen**, formerly at the University of California, Santa Barbara, as assistant professors.

George C. Weiffenbach, previously of the MIT Lincoln Laboratory and the Smithsonian Center for Astrophysics, has joined the Johns Hopkins University Applied Physics Laboratory as head of the space department.

New professors on the faculty of the University of Arizona Optical Sciences Center are **Hyatt M. Gibbs** (formerly of Bell Laboratories), **H. Angus McLeod** (previously of Newcastle-upon-Tyne Polytechnic), **Dror Sarid** (recently of Hebrew University, Jerusalem) and **George I. A. Stegeman** (formerly of the University of Toronto).

magnets will play an important role in future electric-power technology and in the development of magnetically thermonuclear-fusion devices.

Matthias was fascinated by the interface between various electric and magnetic phenomena in solids. For many years he probed the relationship between superconductivity and magnetic order in solids, discovering quite recently a system of ternary borides in which the same material exhibits both superconducting and magnetic phase transitions at low temperatures. It appears that these materials alone will provide a gold mine for solid-state theorists for many years to come.

Matthias always insisted that the creative use of the Periodic Table was an important research tool in understanding the properties of solids. He demonstrated this thesis in over 300 scientific publications, of which we have mentioned only a few examples above. He taught this methodology to more than 150 scientific coworkers and greatly influenced the thinking of many other materials scientists. He enjoyed displaying a continuously updated version of the Periodic Table, with new achievements in superconductivity and magnetism included along with the old. We think it no exaggeration to describe Matthias as a modern successor to Mendeleev.

Matthias was an entertaining lecturer. He preferred to speak extemporaneously and always included some controversial issues in each talk. He particularly relished challenging theorists with outrageous statements, which he would then defend skillfully in ways that stimulated new insights. As a result, he was in great demand as a scientific speaker; this popularity also carried over into his teaching in La Jolla. He preferred the Socratic method and concentrated on getting students to think for themselves. He liked to get them involved in profound issues and questions at the frontiers of science. Many students returned in later years to tell him that their interaction with him was a turning point in their lives.

Anyone who worked with Bernd could not help being brought under the spell of his powerful personality. He had a tremendous enthusiasm for science which continued unabated throughout his life. His flow of new ideas was exhilarating to those around him. He was an absolutely unique individual and his passing has left a gap in our ranks which seems impossible to fill.

ALBERT M. CLOGSTON
Bell Telephone Laboratories
THEODORE H. GEBALLE
Stanford University
JOHN K. HULM
Westinghouse R & D Center

obituaries

Bernd T. Matthias

Bernd T. Matthias, professor of physics at the University of California, San Diego campus, and member of the technical staff of Bell Laboratories, died unexpectedly at his home in La Jolla, California on 27 October. His death deprives the world of science and in particular the solid-state physics and materials-science community of one of its most creative members.

Matthias was born in Frankfurt am Main, Germany, in 1918. He received his PhD from the Federal Institute of Technology, Zurich, Switzerland in 1943, working with Paul Scherrer. He emigrated to the United States in 1947, spending a year at MIT and two years at the University of Chicago. His association with Bell Labs began in 1948. He became professor of physics at the University of California, San Diego, in 1961, and was appointed director of the Institute for Pure and Applied Physical Sciences, UCSD, in 1971. Matthias also served as a consultant for the Los Alamos Scientific Laboratories for many years and was a frequent visiting professor at several other universities in the US and Europe, including Pennsylvania State University, and the Universities of Geneva and Lausanne.

For his discoveries of new superconducting materials, Matthias received the Research Corporation Award (1962), the Wetherill medal of the Franklin Institute (1964), the APS Solid State Physics Prize (1970), and the APS International Prize for new materials (1979).

The central theme of Matthias's scientific career was the utilization of the



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power of substitutional chemistry to create new materials of scientific and technological interest. He discovered several new families of ferroelectric materials, including the alkali metal niobates and tantalates, which have come to prominence in recent years as useful piezoelectric and optical materials. He discovered literally thousands of new materials, including many high-critical-temperature superconductors. These materials include the compound Nb_3Sn , which was the vehicle for the discovery of high-field and high-current-density superconductors in 1961 and led to the new technology of high-field superconducting magnets. It now seems certain that superconducting