

## **Dr. Bernd T. Matthias to be honored by Franklin Institute**

**October 7, 1964**

Dr. Bernd T. Matthias, Professor of Physics at the University of California, San Diego, is among 17 scientists and engineers of international reputation who will be honored by the Franklin Institute at formal Medal Day ceremonies Wednesday, October 21.

The ceremonies will take place in Philadelphia, site of the Institute, a 140-year-old scientific organization named to honor Benjamin Franklin. The Institute is known for its technical journal and its medals which are awarded annually without regard to nationality.

Dr. Matthias is to receive a John Price Wetherill Medal, a silver medal awarded since 1925 for discovery or invention in the physical sciences or for new and important combinations of principles or methods already known. He is being honored for his low temperature studies on superconductive materials.

Dr. John Kenneth Hulm of Westinghouse Research Laboratories and Dr. John Eugene Kunzler, of Bell Telephone Laboratories, are also scheduled to receive Wetherill Medals for their work with superconductive materials.

Superconductivity is a phenomenon discovered by the Dutch physicist, Kamerlingh Onnes. He found that when certain metals are cooled to near absolute zero, or to about minus 459 degrees Fahrenheit, they will conduct an electric current without resistance.

The fact that the metals offer no resistance means that the current flows without generating heat-- with no loss of energy. Thus, literally no power is required to maintain the current flow in a superconducting metal, once it is started. Because superconductors lose their resistance to electricity when cooled to extremely low temperatures, their wide use is foreseen in the technology of communication devices, particle accelerators, and thermonuclear research.

Dr. Matthias' curiosity about superconductivity was aroused in 1950 by the late Nobel laureate, Enrico Fermi. At that time, less than 30 superconducting metals had been discovered. In 1963, more than 500 superconductors were known to science, and most were discovered by Dr. Matthias and co-workers at the Bell Telephone Laboratories in Murray Hill, New Jersey, and at San Diego.

Dr. Matthias was appointed to the UCSD staff in 1961, coming to San Diego after 11 years as a member of the technical staff of the Bell Telephone Laboratories. He received his Ph.D. in physics from the Federal Institute of Technology, Zurich, Switzerland, in 1943.

He was winner of the Research Corporation Award of 1962 for his achievements in superconductivity and ferroelectricity. He was then cited for his "far reaching researches (which) have given insight and stimulus to man's understanding of the material world."