Introduction

Masatsugu Sei Suzuki
Department of Physics, Binghamton University, Binghamton, New York, U.S.A.
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I would like to include a brief biography of Professor Ko Sugihara, who was not only one of my most respected teachers but also a close collaborator in research. My first encounter with Dr. Sugihara's work was in the early 1970s, when I had just begun my Ph.D. thesis research under Professor Sei-ichi Tanuma at the University of Tokyo. At that time, I came across the name "K. Sugihara" in connection with remarkable theoretical studies on the thermomagnetic effects in bismuth.

These studies were inspired by impressive experimental results obtained a few years earlier by Mr. Badr Shafiek Farag, an Egyptian graduate student of Prof. Tanuma. Although Mr. Farag had already left Japan before I began my research—and I never had the chance to meet him—I was shown his unpublished data by Prof. Tanuma. I was deeply impressed. Dr. Sugihara had received permission to use a portion of those data and, in 1969, published two beautiful theoretical papers in the Journal of the Physical Society of Japan, providing an elegant explanation of the thermomagnetic phenomena in bismuth single crystals:

(a) K. Sugihara, *J. Phys. Soc. Jpn*. 27, 356 (1969): Thermomagnetic Effects in Bismuth, I.

(b) K. Sugihara, *J. Phys. Soc. Jpn*. 27, 362 (1969): Thermomagnetic Effects in Bismuth, II: Nernst-Ettingshausen Effect.

Interestingly, the original experimental results by Farag and Tanuma were not formally published until 1976, in a technical report from the Institute for Solid State Physics (ISSP), University of Tokyo. Unfortunately, this report is now difficult to obtain, and as a result, Dr. Sugihara's papers remain the most accessible source for those data. In retrospect, I believe Prof. Tanuma's heavy responsibilities and Mr. Farag's departure may have prevented an earlier publication in a major journal.

I met Dr. Sugihara in person for the first time in May 1983, at the Third International Conference on Intercalation Compounds of Graphite held in Pont-à-Mousson, France. By that time, he had already retired from Matsushita Electric Industrial Co., Ltd. (now Panasonic) and had joined the research group of Prof. Mildred S. Dresselhaus and Dr. Gene Dresselhaus at MIT. Our conversation at the conference left a lasting impression on me; I was struck by the depth of his thinking in condensed matter physics. Meeting him—and also Professors Hartmut Zabel and Stuart Solin—strongly influenced my decision to pursue research opportunities in the United States. Later

that year, I resigned from my position as a research associate at Ochanomizu University and joined Prof. Zabel's group at University of Illinois at Urbana-Champaign.

In 1988, Dr. Sugihara became a full professor at Nihon University, and I was appointed Assistant Professor of Physics at Binghamton University (1986). From that point onward, we began a fruitful collaboration on the transport properties of graphite intercalation compounds, including joint work with Dr. Keiko Matsubara of Nihon University and Itsuko S. Suzuki (Binghamton University).

In both science and life, Prof. Sugihara and his wife, Mihoko Sugihara, offered me generous support and encouragement. It is with deep respect and gratitude that I present this brief biography.