

Foreword

IT is my privilege and honor to write this foreword for the four papers presented at the 1997 IEEE Holm Conference on Electrical Contacts. I hope you will find these peer-reviewed papers both informative and useful. The 1997 IEEE Holm Conference included excellent papers authored by some of the outstanding technical people in this field. The international contributors came from the U.S., Canada, the U.K., Japan, China, Russia, Germany, Greece, France, and Sweden. Other outstanding papers presented at this conference, also peer-reviewed, will be featured in the next issues of the IEEE TRANSACTIONS ON COMPONENTS, PACKAGING, AND MANUFACTURING TECHNOLOGY—PART A.

The four papers in this special issue cover a wide spectrum of topics of current interest, including fundamentals of electrical contacts, arcing phenomena, and modeling. The first paper investigates experimentally the significance of the effective contact capacitance, i.e., the interfacial capacitance during the current flow, for a wide range of stationary metal contacts operating under high charge injection rates. The second deals with direct measurements of the electrical energy stored at the interface of mechanically contacted metals used to demonstrate

the effect of ion neutralization processes. In the third paper, arc commutation from the arc chute, caused by a high arc voltage pulse due to arc splitting, was investigated. The fourth paper describes computer model simulating the unequal contact erosion measured in a vacuum contactor during three-phase AC-4 life testing.

I use this opportunity to express my appreciation to the reviewers and members of the IEEE Holm Technical Committee and for their diligent, unselfish, and dedicated efforts. Their work has made possible the dissemination of the latest technical information from current research and provides the conference attendees and/or the readers with up-to-date information on a wide range of subjects.

As I sit in my office in Montreal, I began to wonder about the effects of El Nino or El Nina, since we are still enjoying late, late Indian Summer... Perhaps, we shall start to dream about White Christmas...

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Milenko Braunovic (M'73–SM'92) received the Dipl.Ing degree in technical physics from the University of Belgrade, Yugoslavia, in 1962 and the M.Met and Ph.D. degrees in physical metallurgy from the University of Sheffield, U.K. in 1967 and 1969, respectively.

He joined the Institute of Metallurgy, Zenica, Yugoslavia, in 1962, where he was working in the Materials Science Research Department until 1965. From 1965 to 1969, he was associated with the Department of Metallurgy, University of Sheffield, U.K., and from 1969 to 1971, he was associated with the Department of Mines and Metallurgy, Laval University, Quebec, P.Q., Canada. He joined IREQ (Hydro-Quebec Research Institute) in 1971, where he was working in the areas of surface and interface phenomena in solids, phenomena related to electrical contacts, shape-memory materials, and tribology. He presented many papers at various international conferences and published a large number of papers in the areas of his scientific interests including contributions to encyclopedias and books. In 1997, he retired from IREQ and established his own consulting company.

Dr. Braunovic is the 1994 recipient of the Ragnar Holm Scientific Achievement Award and the IEEE CPMT Prize Paper Award. He is a senior member of the American Society for Metals (ASM), the Materials Research Society (MRS), the Planetary Society, and the American Society for Testing of Materials (ASTM). He was the Chairperson of the 15th International Conference on Electrical Contacts (ICEC), held in Montreal, P.Q., in 1990 and the Technical Program Chairperson of the 18th ICEC, held in Chicago, IL, in 1996.