

## **Raymond L. Boxman** *biographical sketch*

Raymond L. Boxman received his S.B. and S.M. degrees in Electrical Engineering in 1969 from the Massachusetts Institute of Technology, and his Ph.D. from M.I.T. in 1973. He was introduced to vacuum arcs, which became his career specialty, as a cooperative student at the General Electric Company in Philadelphia, and the subject of triggered vacuum gaps became the topic of his S.M. thesis, while laser interferometric measurement of electron and vapor densities in a vacuum arc became the topic of his Ph.D. thesis. Boxman worked as a Senior Research Engineer at GE where he investigated the behavior of vacuum arcs in high current switches from 1973 to 1975, at which time he took up a position on the Faculty of Engineering at Tel Aviv University. Boxman co-founded of the Electrical Discharge and Plasma Laboratory at TAU. During the last decade Boxman focused his research work on the application of arc plasma to material processing, including deposition of thin films, surface treatments, and water treatment. In 1984 Boxman and his colleagues were awarded the Joffe Foundation Award by the International Union of Surface Finishing for their breakthrough work on pulsed vacuum arc deposition. In 1989 Boxman was named a Fellow of the IEEE for his contribution to vacuum arc theory and applications. In 2000, Boxman was presented with the Walter Dyke Award by the Permanent International Scientific Committee of the International Symposia on Discharges and Electrical Insulation in Vacuum, for "his outstanding body of work in the field of electrical discharges in vacuum, in particular for his contributions to the physics, technology, and applications of vacuum arc plasmas". Boxman was named as a Fellow of the International Microwave Power Institute in 2018.

Boxman was Chairman of the International Conference on Superhard Coatings in 2006. He served as Secretary of the Permanent International Scientific Committee of the International Symposia on Discharges and Electrical Insulation in Vacuum, and as a member of the Program Committee and Session Chairman for the Hard Coatings and PVD Symposium of the International Conference on Metallurgical Coatings and Thin Films. He founded and was the first chairman of the Israel Plasma Science and Technology Association. Boxman served as Associate Editor of the IEEE Transactions on Plasma Science, served as its guest editor for special issues on vacuum discharge plasmas, and on plasma deposition, and was a member of the Editorial Board for Plasma Chemistry and Plasma Processing. He currently serves on the editorial board of Plasma Sources Science and Technology. He organized and edited the text "Handbook of Vacuum Arc Science and Technology" which involved the coordinated efforts of 24 authors in seven countries. In addition, he has presented more than 500 scientific papers at conferences or in technical journals, as well as 12 patents. At Tel Aviv University, Prof. Boxman was the incumbent of the Kranzberg Chair of Plasma Engineering, and has served as Coordinator for the Materials Engineering Program, Head of the Department of Interdisciplinary Studies, and Vice Dean for Research in the Faculty of Engineering. Boxman retired from TAU after 40 years of service in 2015.

For 16 years, Boxman taught a course on Technical Writing in English which was required for all engineering PhD students at Tel Aviv University.

During much of his academic career, Boxman taught courses on electromagnetic fields. Boxman developed a transparent window for microwave ovens using transparent conducting coatings instead of the conventional metal grid, and founded Clear Wave Ltd. for commercializing it. He served as Chairman of the Technical Program Committee for the International Microwave Power Institute Symposium in 2014 and 2015 and is currently on IMPI's Board of Governors.

Boxman is married to Edith, a retired economist and manager at Bank Leumi, with whom he has four grown children and ten grandchildren. Together they have written a text book and present short courses on scientific writing, and in their spare time they enjoy hiking, swimming, tennis, folk-dancing and gardening.