Guest Editorial

MICROWAVE acoustic wave devices are now finding application in many diverse electronic products. Many telecommunication systems—in particular, satellite and mobile radio systems—are dependent on extremely high-performance surface acoustic wave (SAW) and/or bulk acoustic wave (BAW) filters. Besides the familiar BAW (crystal)-controlled oscillator (followed by a frequency multiplier chain), one finds increasingly high-frequency SAW oscillators penetrating electronic communication and sensor systems. Large (and to an increasing extent) radar systems utilize acoustic delay lines and pulse compression filters. Wireless acoustic sensing for many physical and chemical quantities is now becoming mature and feasible. Fixed-code and programmable matched filters have opened up a wide range of signal-processing capabilities.

This TRANSACTIONS Special Issue on "Microwave Acoustic Wave Devices for Wireless Communications and Sensing," in large measure, covers these important topics. We are happily surprised by the fact that the number of quality papers received was quite high and that the majority of the papers can be classified as very topical and application-oriented papers.

We would like to thank all the reviewers who helped review these manuscripts in a timely fashion. Thanks are also due to this TRANSACTIONS' Editor-in-Chief, David Rutledge, California Institute of Technology, Pasadena, and to the Associate Editor for Special Issues, Robert York, University of California at Santa Barbara, for the support and guidance we received. We also wish to acknowledge Carol Sosnowski, California Institute of Technology, Pasadena, Christina M. Rezes, IEEE, Piscataway, NJ, and Andreas Stelzer, Johannes Kepler University of Linz, Linz, Austria, for managing this project.

ROBERT WEIGEL, *Guest Editor*
Johannes Kepler University of Linz
Institute for Communications and Information Engineering
A-4040 Linz, Austria

KEN-YA HASHIMOTO, *Guest Editor*
Chiba University
Department of Electrical Engineering
Chiba 263, Japan

Robert Weigel (S'88–M'89–SM'95) was born in Ebermannstadt, Germany, in 1956. He received the Dr.-Ing. and Dr.-Ing.habil. degrees in electrical engineering and computer science from the Munich University of Technology, Munich, Germany, in 1989 and 1992, respectively.

From 1982 to 1988, he was a Research Engineer, from 1988 to 1994 a Senior Research Engineer, and from 1994 to 1996, a Professor of RF circuits and systems at the Munich University of Technology. In Winter 1994–1995, he was a Guest Professor of SAW technology at the Vienna University of Technology, Vienna, Austria. Since 1996, he has been Director of the Institute for Communications and Information Engineering, Johannes Kepler University of Linz, Linz, Austria. In August 1999, he co-founded Danube Integrated Circuit Engineering (DICE), Linz, Austria, an Infineon Technologies Development Center, which is devoted to the design of mobile radio circuits and systems. In 2000, he was appointed a Professor of RF engineering at the Tongji University, Shanghai, China. He has been engaged in research and development on microwave theory and techniques, integrated optics, high-temperature superconductivity, SAW technology, and digital and microwave communication systems. Within these fields, he has authored or co–authored over 200 papers and has given over 120 international presentations. His review work includes European research projects and international journals.

Dr. Weigel is a member of the Institute for Components and Systems of The Electromagnetics Academy, the Informationstechnische Gesellschaft (ITG), and the Austrian Engineering Society (ÖVE). Within the IEEE Microwave Theory and Techniques Society (IEEE MTT-S), he is chair of the Austrian IEEE COM/MTT Joint Chapter, Region 8 coordinator, regional distinguished microwave lecturer, and chair of MTT-2 Microwave Acoustics.

Publisher Item Identifier S 0018-9480(01)02897-6.

Ken-ya Hashimoto (M'83) was born in Fukushima prefecture, Japan, in 1956. He received the B.S. and M.S. degrees in electrical engineering from Chiba University, Chiba, Japan, in 1978 and 1980, respectively, and the Dr. Eng. degree from the Tokyo Institute of Technology, Tokyo, Japan, in 1989.

In 1980, he joined Chiba University, as a Research Associate, and is currently an Associate Professor. In 1998, he was a Visiting Professor at the Helsinki University of Technology. In Winter 1998–1999, he was a Visiting Scientist of the Laboratoire de Physique et Metrologie des Oscillateurs (LPMO), Centre National de la Recherche Scientifique (CNRS), Paris, France. In 1999, he was a Visiting Professor at the Johannes Kepler University of Linz, Linz, Austria. His current research include various types of surface and bulk acoustic wave devices, acoustic wave sensors, and application of thin film and micromachining technologies to the acoustic wave devices.

Dr. Hashimoto is member of the Institute of Electronics, Information and Communication Engineers (IEICE), Japan, the Institute of Electrical Engineers of Japan, and the Acoustical Society of Japan.