

# Editorial

**T**HIS EDITORIAL marks the end of my term as Editor of the TRANSACTIONS ON MICROWAVE THEORY AND TECHNIQUES. The Editor's term is normally three years, but after 18 months as Editor, I moved from AT&T Bell Laboratories and took up the position of Professor of Electrical Engineering at the University of Melbourne, in Australia. It was clear that editing the TRANSACTIONS would be difficult from such a distance and I have therefore stepped down from the position.

The new Editor of the TRANSACTIONS is Professor Stephen A. Maas of the University of California, Los Angeles. Professor Maas is well known for his outstanding work in nonlinear microwave circuits and has published many important papers. He was the recipient of the 1989 Microwave Prize and is extremely well qualified to be Editor. Dr. Maas commenced editorial work on the TRANSACTIONS in January 1990 and takes over as Editor with this issue.

My term as Editor saw a continued increase in the number of papers submitted to the TRANSACTIONS. Despite the increased submission rate, it was possible to dramatically reduce the backlog of papers that had built up in previous years, through an increase in the page budget, and authors' efforts to present their work as concisely as possible. The series of special issues in topical subject areas has continued, and a number of issues on exciting topics are planned for 1990 and 1991. The Symposium Special Issue, published each December, has grown in size over the years, but is now limited to about 350 pages.

Another continuing trend has been a dramatic increase in the number of active reviewers. I have added approximately 200 new names to the list of reviewers, and have drawn on the services of about 600 reviewers in my 18-month term as Editor. As the size of the TRANSACTIONS increases and the diversity of subject areas under the Microwave Theory and Techniques umbrella continues to grow, Dr. Maas will no doubt need to further expand the reviewer base.

There are many people who have been of assistance to me over the past 18 months. The reviewers are the backbone of the TRANSACTIONS, and their dedicated efforts are a major factor in maintaining the TRANSACTIONS as the premier journal in the field. I would like to offer my heartfelt thanks to each one of them. I would also like to thank the Microwave Theory and Techniques Society Administrative Committee for their continued support and encouragement, in particular Tatsuo Itoh and Martin Schneider, the Publication Committee Chairmen under whom I have served. Thanks also go to the Associate Editors and the Editors of special issues. Finally, I would like to acknowledge the highly professional and efficient support of Chris Ralston, the TRANSACTIONS Associate Editor in the IEEE Publications Department in New York.

RODNEY S. TUCKER  
*Editor (1989-1990)*



**Rodney S. Tucker** (S'72-M'75-SM'85-F'90) was born on March 14, 1948, in Melbourne, Australia. He received the B.E. degree and Ph.D. degree from the University of Melbourne in 1969 and 1975, respectively.

From 1973 to 1975 he was a Lecturer in Electrical Engineering at the University of Melbourne. His research was in the area of gain-bandwidth limitations and circuit synthesis techniques for broad-band and low-noise microwave transistor amplifiers. He was with the Department of Electrical Engineering and Computer Sciences, University of California, Berkeley, from 1975 to 1976, and from 1976 to 1977 he was with the School of Electrical Engineering, Cornell University. At Berkeley and Cornell, he developed methods for characterizing nonlinearities and distortion in microwave amplifiers. From 1977 to 1978 he was with Plessey Research (Caswell), Ltd., Allen Clark Research Center, England, where he worked on the packaging, characterization, nonlinear modeling, and analysis of high-power gallium arsenide field-effect transistors. He

designed high-power and high-efficiency microwave field-effect transistor amplifiers at X-band frequencies.

In 1978 he joined the Department of Electrical Engineering at the University of Queensland, Brisbane, Australia, where he was a Lecturer and later a Senior Lecturer. At the University of Queensland he worked on nonlinear microwave network analysis microwave oscillators and mixers, automated large-signal microwave measurements, and

high-speed optoelectronic devices. He developed new circuit modeling techniques for the analysis of microwave modulation in semiconductor lasers.

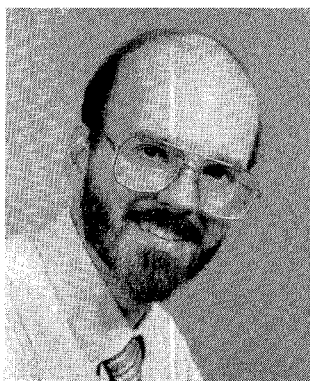
From 1984 to 1990, he was with AT&T Bell Laboratories, Crawford Hill Laboratory, Holmdel, NJ, where his research was in high-speed semiconductor lasers, photodetectors, optical modulators, and optical amplifiers for digital and microwave analog lightwave systems. He worked on a number of applications of high-speed optoelectronic devices, including on-chip electro-optic sampling techniques for microwave integrated circuits, optical time-division multiplexing techniques for multigigabit per second systems, and millimeter-wave modulation of semiconductor lasers.

Since January 1990, Dr. Tucker has been with the Department of Electrical and Electronic Engineering at the University of Melbourne, in Australia, where he is Professor of Electrical Engineering and Head of the Department of Electrical and Electronic Engineering. His research interests include microwave subcarrier multiplexing, photonic switching, and computer-aided design methods for photonic circuits.

Dr. Tucker is a member of the Microwave Theory and Techniques Society AdCom, and serves on the Lightwave Technology Committee of the MTT Society. He was awarded a Harkness Fellowship by the Commonwealth Fund of New York in 1975 and the Fisk Prize by the Institution of Radio and Electronics Engineers, Australia, in 1970.



## Incoming Editor



**Stephen A. Maas** (S'80–M'83) received the B.S. and M.S. degrees in electrical engineering from the University of Pennsylvania in 1971 and 1972, respectively, and the Ph.D. degree, also in electrical engineering, from UCLA in 1984. His dissertation research involved the analysis of GaAs MESFET mixers, and was one of the first applications of harmonic-balance analysis to microwave FET circuits.

From 1973 to 1974 he developed instrumentation for lidar studies of the atmosphere at the U.S. National Oceanic and Atmospheric Administration's Environmental Research Laboratories in Boulder, CO. In 1974 he joined the National Radio Astronomy Observatory in Socorro, NM, where he was responsible for the development of the cryogenic low-noise receivers for the Very Large Array (VLA) radio telescope program. Since 1978 he has been involved in the research and development of microwave and millimeter-wave systems and components for space applications, first at the Hughes Aircraft Company and later at TRW. The components he developed include FET and

HEMT amplifiers, millimeter-wave diode mixers, active FET and HEMT mixers (including a 45 GHz HEMT mixer), and integrated millimeter-wave down-converters using HEMT low-noise amplifiers. From 1985 to 1989 he was with The Aerospace Corporation as a Research Scientist, working on the analysis of nonlinear microwave circuits and systems. At present he is an Associate Professor of Electrical Engineering at UCLA and consults for companies in the Los Angeles area. His research interests are in the application of Volterra-series analysis to microwave circuits, nonlinear CAD, and in developing practical means to improve the dynamic range of microwave components and systems.

Dr. Maas is the author of two books on microwave subjects, *Microwave Mixers* and *Nonlinear Microwave Circuits*, published by Artech House Books (Norwood, MA) in 1986 and 1988, respectively.