Abstract:
Design of high gain and high efficiency antennas is one of the key challenges in antenna engineering and especially in millimeter wave communication systems. Four types of single layer waveguide arrays are developed in Tokyo Tech. Key features as well as the advantages in terms of mass production and fabrication costs, have been demonstrated. Not only the design techniques, but also the novel materials are developed and tested. These activities are surveyed in the talk and future application to the millimeter wave communication/sensor systems are discussed. Millimetre wave test systems, utilizing these antennas for the medium range backhaul links, are now developed in Tokyo Tech Oookayama campus. Unique features of propagation data in the early stage of the project are reported. The hybrid PO/MOM developed for the high frequency propagation study will also be included in the talk.

Bio:
Makoto ANDO received the B.S., M.S. and D.E. degrees from Tokyo Institute of Technology (Tokyo Tech), Japan in 1974, 1976 and 1979, respectively. From 1979 to 1983, he worked at Yokosuka ECL, NTT. He was a Research Associate at Tokyo Tech from 1973 to 1985, and is currently a Professor. He is also serving as the Program Officer for JSPS (Electrical and Electronics Engineering) since 2007.

He served as the Chair of ISAP2007, the technical program Co-chair for the 2007 IEEE AP-S Symposium and also the Chair of 2004 URSI EMT Symposium. He served as the guest editor and the guest editor-in-chief for seven special issues in Radio Science, IEEE Trans. AP and IEICE Transactions since 2001.

He was the President of IEICE Electronics Society 2007-2008, the member of Scientific Council for Antenna Centre of Excellence in EU's 6th framework programme 2004-2007, the Chair of Commission B of URSI 2002-2005 and also the AdCom member of IEEE Antennas and Propagation Society 2004-2006. He is currently the President of IEEE Antennas and Propagation Society. He is the member of IEE, IEICE Japan and is Fellow of the IEEE.