UNIVERSITY OF MACAU
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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING
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"Solid State Vacuum Device Technology for Future Communications and Radars"

by

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Venue : N402

Abstract

The demands for high data-rate communications and the energy crisis felt during the recent economic downturn have highlighted the strong needs for advanced electronic systems which not only offer better capabilities than what has been available to date but also offer higher system efficiency. These are also many new advanced radar applications requiring the better system capabilities and higher system efficiency. Although the operations may be very different, they all require high performance very high frequency high power sources to provide them with the excellent resolution, footprint, precision, sensitivity and range needed for the operation. InnoSys has developed a new class of millimeter wave (MMW) and terahertz (THz) high power devices to meet these system

requirements.

InnoSys has developed a suite of solid state vacuum device (SSVD^TM) technology offerings which are designed for high performance very high frequency high power devices and modules. As a result of the technological advances made in SSVD^TM , InnoSys has successfully developed a series of high performance MMW and THz high power device products. It should be noted that, through each one of the series of the device products we have developed, we have demonstrated certain performance enhancement over what has been available to date. The most noticeable advantages of our high power device products are their higher manufacturing yield and reliability together with their smaller size and lighter weight compared to what has been available to date. Furthermore, we have demonstrated high efficiency, broad bandwidth and good linearity all with high output power.

In this presentation, the InnoSys SSVD^TM technology and the products and their applications will be introduced.

Biography

Dr. R. Jennifer Hwu received her Ph. D. degree from UCLA in 1991. She is the founder and has been the President/CEO of InnoSys, Inc. since its incorporation in 2000. She started as an assistant professor and became a full professor of the Department of Electrical Engineering at the University of Utah in 1991 and 2001, respectively. She worked for TRW, Electronics and Technology Division as a member of Technical Staff and MM Wave Technology, Inc. as a consultant during 1989 and 1990. She has also consulted for many companies including E-Systems, Micron Technology, and Walsin Lihwa. Her major research interests are in the area of microwave and millimeter-wave electronics including microwave integrated circuits (MICs). She has more than twenty US patents, pending patents and many in preparation. She has published close to 50 referee-reviewed journal articles, including invited and review papers and one book chapter and has given over 120 talks in international conferences.

Dr. Hwu received the 1995 Office of Naval Research Young Investigator Award. She also received the National Science Foundation Career Advancement Award in 1993 and the US White House Presidential Early Career Awards for Scientists

and Engineers (PECASE) in 1996. She was named a US White House Presidential Faculty Fellow (PFF) in 1997. She has been a Senior Member of the IEEE since 1994. She also received the IEEE Individual Achievement Award in 1997. She has served on many national-level committees and panels reviewing various technical programs in the nation and has served on technical programs of numerous international conferences, including being the chair of the International Conference on THz and GHz Photonics and Electronics and THz for Military and Security Conference. Dr. Hwu has also received much recognition in business world including a Business Visionary award from the Department of Commerce and the State of Utah and served as the Vice Chair of the Global Council to the Governor of the State of Utah.

ALL ARE WELCOME!