PENNSTATE

(Due to speaker cancellation this is a revised announcement!)

SIGNALS AND SYSTEMS AREA SEMINAR

(EE 500 GRADUATE COLLOQUIUM)

Fall 2009

You are cordially invited to

The Seminar

Entitled

"Current Practices and Future Directions for Adaptive Signal Processing"

By

W. Kenneth Jenkins
Professor and Head of Electrical Engineering

The talk will take place on

September 24, 2009
4:00 pm

At

225 EE West Building

Abstract:

In the late 1950's when Widrow and Hoff of Stanford University introduced the Least Mean Squares (LMS) adaptive filter, and Robert Lucky of AT&T proposed the first adaptive equalizer based on similar principles, the integrated circuit technology of the day was not sufficiently advanced for practical implementations of these novel concepts. However, during the last five decades rapid advancements in adaptive signal processing theory and digital integrated circuit technologies have allowed adaptive signal processing techniques to assume key roles in digital processing associated with telephone communications, wireless communications, digital video, cognitive radio, and biomedical applications. This talk will discuss current practices and future directions of adaptive signal processing for many of these areas that depend on adaptive echo cancellation, adaptive equalization, adaptive noise cancellation, and adaptive compression. Some recent research results will be presented on the principles of adaptive fault tolerance to overcome soft error phenomena in highly scaled integrated circuits.

Speaker Bio:

W. Kenneth Jenkins received the B.S.E.E. degree from Lehigh University and the M.S.E.E. and Ph.D. degrees from Purdue University. From 1974 to 1977 he was a Research Scientist Associate in the Communication Sciences Laboratory at the Lockheed Research Laboratory, Palo Alto, CA. In 1977 he joined the University of Illinois at Urbana-Champaign where he was a faculty member in Electrical and Computer Engineering from 1977 until 1999. From 1986-1999 Dr. Jenkins was the Director of the Coordinated Science Laboratory. In 1999 he became Professor and Head of Electrical Engineering at Penn State University.

Dr. Jenkins' current research interests include fault tolerant DSP for highly scaled VLSI systems, adaptive signal processing, multidimensional array processing, computer imaging, and bio-inspired optimization algorithms for intelligent signal processing. He co-authored the book *Advanced Concepts in Adaptive Signal Processing*, published by Kluwer in 1996. He served as General Chairman of the 1988 Midwest Symposium on Circuits and Systems and as the General Chairman of the Thirty Second Annual Asilomar Conference on Signals and Systems. From 2002 to 2007 he served on the Board of Directors of the Electrical and Computer Engineering Department Heads Association (ECEDHA) and as President of ECEDHA in 2005.

Dr. Jenkins is a Fellow of the IEEE and a recipient of the 1990 Distinguished Service Award of the IEEE Circuits and Systems Society. In 2000 he received a Golden Jubilee Medal from the IEEE Circuits and Systems Society and a 2000 Millennium Award from the IEEE. In 2000 was named a co-winner of the 2000 International Award of the George Montefiore Foundation (Belgium) for outstanding career contributions to the field of electrical engineering and electrical science, and in 2002 he was awarded the Shaler Area High School Distinguished Alumnus Award.