

Spring 2015 Seminar Series

Presented by the ECE Division

HIGH-PERFORMANCE INTEGRATED POWER CONVERSION CIRCUITS FOR ENERGY-EFFICIENT SYSTEMS

FRIDAY MARCH 27, 2015

11:00 AM – HEC 450

Integrating and extending the operational life of embedded systems in emerging applications demand for more efficient use of energy and power than state of the art offers because smaller spaces constraint energy and power to such an extent that these devices suffer from significant volume and performance limitations. As a result, for promising applications to flourish, integrated solutions of power converters are essential. This talk will provide an overview of our research on both analog-assisted power conversion circuits and power-inspired analog circuits for different emerging applications in consumer electronics, solid-state LED lighting, solar energy harvesting systems, etc. These research activities ultimately help improve both power density and power efficiency of existing state-of-the-art power conversion circuits, resulting in significant cost reduction and energy saving. Design considerations in integrated power converters and measurement results from prototype test chips will be discussed in the presentation.

DR. HOI LEE

University of Texas, Dallas



Dr. Hoi Lee received his Ph.D. degree in Electrical and Electronic Engineering from Hong Kong University of Science and Technology in 2004. In January 2005 he joined the Department of Electrical Engineering, University of Texas at Dallas, where he is currently an Associate Professor. His research interests consist of power management integrated circuits, power converter topologies and control methodologies, and analog circuits.

Dr. Lee is an Associate Editor of the IEEE Transactions on Circuits and Systems II and Chair of Power Management Technical Committee in the IEEE Custom Integrated Circuits Conference. He also serves on the Technical Program Committee in other IEEE Conferences such as the IEEE International Symposium on Circuits and Systems, IEEE Midwest Symposium on Circuits and Systems, and IEEE International Symposium on Power Semiconductor Devices and ICs. Dr. Lee is a senior member of IEEE. He received the National Science Foundation CAREER Award in 2011 and the Best Student Paper Award in 2002 from the IEEE Custom Integrated Circuits Conference. He is also a co-recipient of the Best in Session Award in the 2013 SRC TECHCON Conference.

Hosted by: Dr. Jiann-Shiun Yuan, NSF MIST Center Director

