INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS

WAVES AND DEVICES - Phoenix Chapter

Meeting Free & Open to Non-IEEE Members

6:00 to 7:30PM, Thursday, February 18, 2016

Arizona State University
Goldwater Center, GWC487
650 E. Tyler Mall, Tempe, AZ

High Bandwidth Packaging Challenges in a Connected World

Lesley Polka, Ph.D., Principal Engineer at Intel Corporation in Chandler, Arizona

Abstract: The world of computing is rapidly evolving. The demand for connectivity and access to data is accelerating. We hear exciting terms like, the "Internet of Things," the "Cloud," and "Big Data." What does all this mean for computing hardware and, specifically, for packaging? The accelerated need for connectivity and data access provides unique challenges for high bandwidth packaging, or the packaging for chips that must connect and manage large quantities of data. This talk provides an overview of the drivers and challenges facing high bandwidth packaging and a discussion of the potential technology solution paths. We begin with a discussion of the environment and drivers. This includes looking at trends in connectivity and in the diversification of products, IPs, and standards. We review I/O speed and bandwidth trends for DDRx and Serdes. We then look at the impact on packaging and discuss specifics of some of the solution paths. This includes a discussion of materials, processing, design and package architecture. Emerging package architectures, such as 2.5D and 3D packaging are also highlighted. We conclude with a discussion of the key messages for packaging engineers.

Biography: Lesley Polka is a Principal Engineer at Intel Corporation in the Assembly and Test Technology Division (ATTD) in Chandler, Arizona. She received her B.S., M.S. and Ph.D., all in electrical engineering, from Arizona State University (ASU), with a graduate research focus in computational electromagnetics. She joined Intel in 1994 and has worked on a wide variety of package and interconnect technologies, primarily focused on electrical challenges and package technology development. She is presently the ATTD Foundry Packaging Electrical Program Manager, responsible for addressing all electrical aspects of delivering package solutions for Intel's Custom Foundry customers. Lesley has taught at ASU as an engineering adjunct / guest instructor. She is also a Senior member of IEEE active in the Phoenix section. She is the Vice-chair of the IEEE Phoenix Women in Engineering (WIE) Affinity Group and was a member of the local organizing committee for the 2015 IEEE IMS Symposium where she chaired the High School Invitational, a STEM outreach activity for local students.

For more information https://meetings.vtools.ieee.org/m/38220, or contact:

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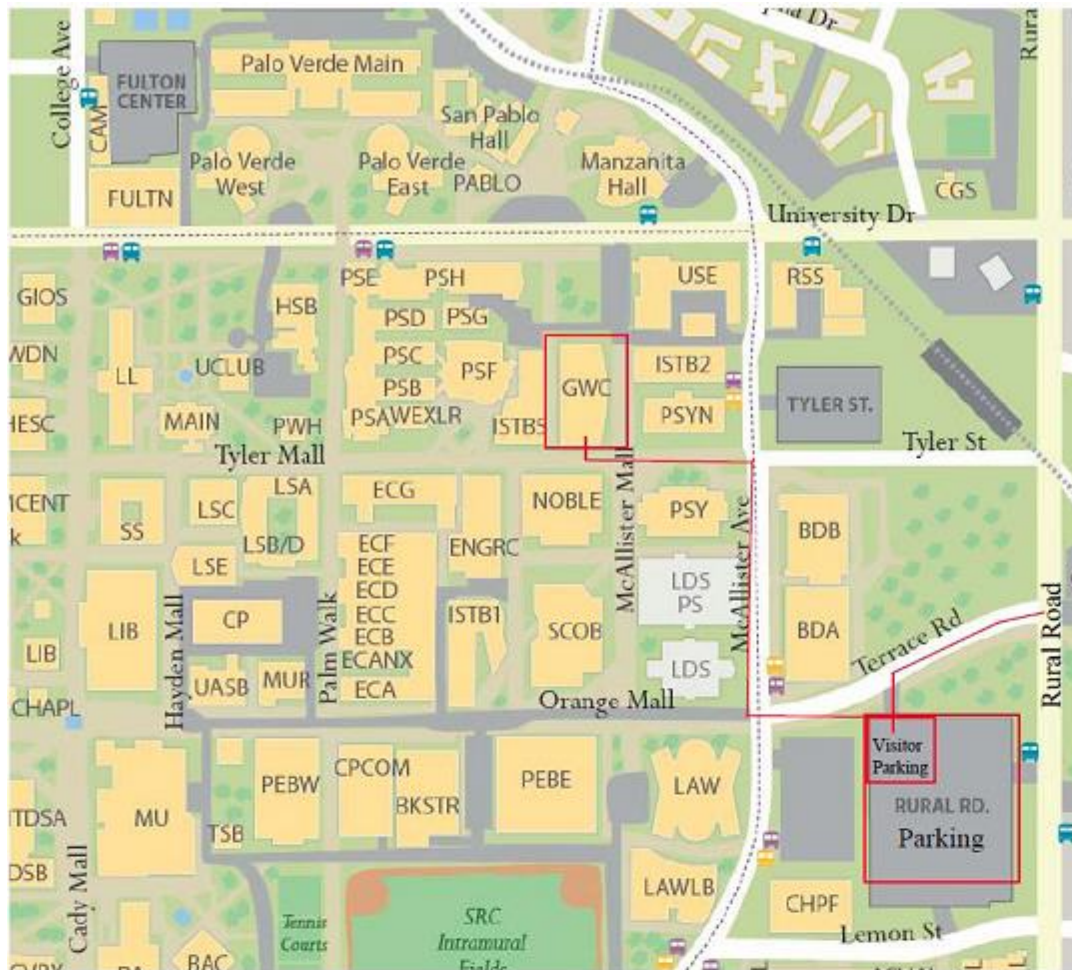
WAD Website: http://ewh.ieee.org/r6/phoenix/wad/

Date: **Thursday, February 18, 2016**

Time: **6:00-7:30 PM Presentations (Pizza will be served following the Seminar)**

Location: Goldwater Center, GWC487, Arizona State University, 650 E. Tyler Mall, Tempe, AZ

Goldwater Center – GWC – Room 487
Building is across from Noble Science Library



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