

# SEMINAR NOTICE

Preston M. Green Department of Electrical and Systems Engineering

“On the Matter of Trust”

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**Abstract:** Virtually every endeavor in the human experience has been thoroughly penetrated by integrated circuit technology. Along with the unprecedented capabilities it provides our civilization, it also presents new threats to our personal and national economics, security, and health. The manner by which we bestow trust on the technologies through which we conduct our daily affairs has never been more important; yet evolution has not equipped us to effectively recognize them. Our visual media can be manipulated with Photoshop; our software and networks may be hacked; and the hardware hosting these capabilities is known to often be counterfeited and compromised. Trust is essential to our way of life; it allows us to work and live together as a civilization. Given that the human “OS” going forward will be expressed in venues such as Facebook, Google, Apple, and Microsoft which run on these electronic platforms, it is imperative that we supplant our own innate sixth sense with a means to accurately assess technical trustworthiness. This talk will provide an overview of the electronic threat space and some of the ideas DARPA is developing to mitigate them. By trading security for convenience, expense, and privacy, the biggest threat to our own security may be within us.

Monday, March 23, 2015  
2:10 p.m.  
Green Hall, Room 0120

Host: Arye Nehorai

**Short Bio:** Kerry Bernstein joined DARPA in September 2012 as a program manager in the Microsystems Technology Office. His interests are in the area of hardware security assurance, and authentication; anti-counterfeiting and smuggling mitigation technologies; high performance computing technology/design; and post-CMOS devices. He formerly spent 33 years at the IBM T.J. Watson Research Center and IBM Microelectronics, where he was a Senior Technical Staff Member working in the areas of high performance/low power devices / circuits / architectures; emergent post-CMOS logic switch technologies; 3D Chip Integration, and radiation induced upset modeling. He attributes any successes realized to be due in large part to being surrounded by wonderful people throughout his career.

Mr. Bernstein has co-authored four (4) textbooks, holds 155 patents, and is a Fellow of the Institute of Electrical and Electronics Engineers (IEEE). Mr. Bernstein received his B.S. (1978) in Electrical Engineering from Washington University in St. Louis, Missouri.