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ATM | **ELECTRICAL & COMPUTER ENGINEERING**
T E X A S   A & M   U N I V E R S I T Y

S E M I N A R

Room 1035 ETB

February 5, 2018, 1:50 – 2:50 P.M.

Digitally Assisted Analog Design for Variation Resilience and Security

by

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Abstract: In this talk, two recent works on how digital circuit techniques are applied to improve analog IC designs.

The first part will be about how to improve analog IC resilience to variations by incorporating built-in self-optimization implemented by digital circuits. In the second part, a new work on analog IC security will be introduced.

Analog IC is the topmost counterfeited semiconductor product. However, the research attention to analog IC security is far less than that for its digital counterpart. We will show the problem nature difference between analog and digital security.

A SMT based security technique for thwarting analog IC piracy will be introduced.

Jiang Hu received the B. S. degree in optical engineering from Zhejiang University, China, in 1990, the M. S. degree in physics in 1997, and the Ph. D. degree in electrical engineering from the University of Minnesota in 2001. He was with IBM Microelectronics from January 2001 to June 2002. Currently he is a professor in the Department of Electrical and Computer Engineering at Texas A&M University. His research interests include optimization of hardware computing systems, chip power management, approximate computing and hardware security. He received a best paper award at the ACM/IEEE Design Automation Conference in 2001, an IBM Invention Achievement Award in 2003, and a best paper award at the IEEE/ACM International Conference on Computer-Aided Design in 2011. He has served as General Chair and Technical Program Chair for the ACM International Symposium on Physical Design, and associate editor for IEEE Transactions on CAD and ACM Transactions on Design Automation of Electronic Systems. He was named an IEEE Fellow in 2016.