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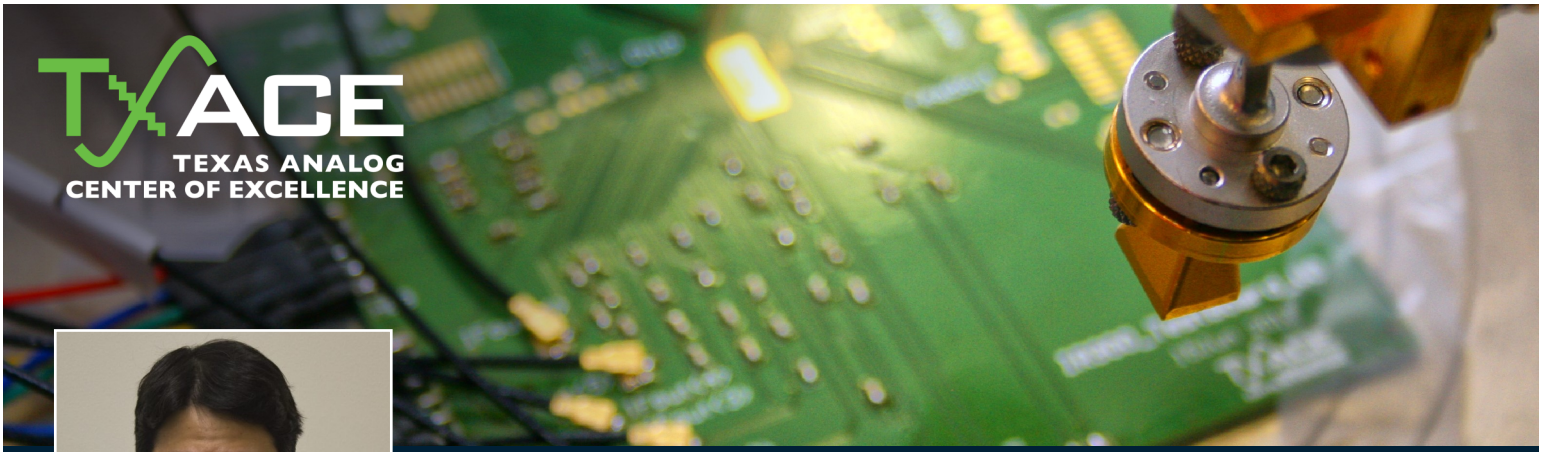

Characterizing Front-end and Back-end Circuit Aging: Direct Technology Transfer to SRC Companies

Chris H. Kim
Fellow, IEEE; Professor ECE
University of Minnesota

BIO

Chris H. Kim (Fellow, IEEE) is currently the Louis John Schnell Professor in electrical and computer engineering at the University of Minnesota. His group has expertise in digital, mixed-signal, and memory IC design, with an emphasis on circuit reliability, hardware security, memory circuits, radiation effects, time-based circuits, machine learning, and quantum-inspired hardware design. Prof. Kim was a recipient of the 2016 SRC Technical Excellence Award for his Silicon Odometer research.

ABSTRACT

In this talk, I will give an update on my group's latest research on characterizing front-end and back-end CMOS reliability issues and discuss our technology transfer efforts with SRC member companies. The specific topics I will cover are as follows.

1. A synthesizable silicon odometer for monitoring aging effects in high reliability SoC products
2. Power grid electromigration characterization for EDA model parameter tuning
3. On-chip heater design and control for accelerated circuit testing

Friday, March 25, 2022 at 1:00 – 2:00 p.m.
Osborne Conference Room (ECSS 3.503)

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