



**Ferroelectric Devices, Circuits and Architectures
for AI Hardware Design**

Dr. Shimeng Yu

Dean's Professor

*School of Electrical and Computer Engineering
Georgia Institute of Technology*



Date: Wednesday, September 25 @ 2.00 pm in BRK 1001

Coffee and snacks served before seminar

Zoom Link: <https://purdue-edu.zoom.us/j/95283400606>

Abstract:

We will present the recent progresses on doped HfO₂ based ferroelectric devices and their applications: 1) fundamental device physics and variability of ferroelectric field effect transistor (FeFET); 2) a new concept on ferroelectric non-volatile capacitor (nvCap) for “charge-domain” in-memory-computing; 3) back-end-of-line (BEOL) ferroelectric gated router for mapping different AI models; 4) ferroelectric 3D V-NAND for in-memory-search to accelerate the genome sequencing.

Bio:

Shimeng Yu is the Dean's Professor of Electrical and Computer Engineering at Georgia Institute of Technology. He received the PhD degree from Stanford University. He is elevated for the IEEE Fellow for contributions to non-volatile memories and in-memory computing. His 400+ publications received 30,000+ citations (Google Scholar) with H-index 82.