



# 7<sup>th</sup> IEEE Electron Devices Technology and Manufacturing (EDTM) Conference 2023

March 7 – 10, 2023 / COEX Seoul, Korea

47F. Memory for New Applications	
Session Date:	March 9(Thu.), 2023
Session Time:	16:30-18:00
Session Room:	Room F (#317)
Session Chair:	Prof. Tae-Sik Yoon (Ulsan National Institute of Science and Technology)
	Prof. Kyung Min Kim (Korea Advanced Institute of Science and Technology)

[47F-1] 16:30-16:45

## Demonstration of Ultra-Thin Ferroelectric/Dielectric and Anti-Ferroelectric/Dielectric Bilayers for Future DRAM Cell Capacitors

Dong Ik Suh, Won-Tae Koo, Youngmo Kim, Ja-Yong Kim, Seung Wook Ryu, Heeyoung Jeon, Ki Vin Im, Gwangyeob Lee, Taeone Youn, Hyeonho Jeong, Seho Lee, Myung-Hee Na and Seon Yong Cha  
*SK hynix Inc.*

[47F-2] 16:45-17:00

## A Ferroelectric Differential Bit Cell Based Multiple-Time Programmable Physical Unclonable Function (PUF) for IoT Devices Security

Paritosh Meihar, Srinu Rowtu, Sandip Lashkare and Udayan Ganguly  
*Indian Institute of Technology Bombay*

[47F-3] 17:00-17:15

## A Novel Pulse-Width-Modulated FeFET-Based Analog Content Addressable Memory with High Area-And Energy-Efficiency

Weikai Xu<sup>1</sup>, Jin Luo<sup>1</sup>, Qianqian Huang<sup>1,2,3</sup> and Ru Huang<sup>1,2,3</sup>  
<sup>1</sup>Peking University, <sup>2</sup>Beijing Advanced Innovation Center for Integrated Circuits, <sup>3</sup>Chinese Institute for Brain Research

[47F-4] 17:15-17:30

## Novel Complementary FeFET- Based Lookup Table and Routing Switch Design and Their Application in Energy/Area-Efficient FPGA

Yuan-Yu Huang, Po-Tsang Huang, Po-Yi Lee and Pin Su  
*National Yang Ming Chiao Tung University*

[47F-5] 17:30-17:45

## A 40-nm Embedded 1T-OTP MACRO with Gate-Oxide-Charge Storage by Channel-Hot-Electron-Injection Featuring 0.086 $\mu\text{m}^2/\text{cell}$ , 1.8 V of Program-Voltage, 125 °C Retention

Y. H. Ye, Y. X. Huang, H. S. Su, R. Q. Lin, Y.-H. Lin, K. H. Chang, T. H. Shen and E Ray Hsieh  
*National Central University*

[47F-6] 17:45-18:00

## Self-Clocking Fast and Variation Tolerant True Random Number Generator Based on a Stochastic Mott Memristor

Gwangmin Kim, Jae Hyun In, Young Seok Kim, Hakseung Rhee, Woojoon Park, Hanchan Song, Juseong Park and Kyung Min Kim  
*Korea Advanced Institute of Science and Technology*