



7th IEEE Electron Devices Technology and Manufacturing (EDTM) Conference 2023

March 7 – 10, 2023 / COEX Seoul, Korea

43B. Device Reliability	
Session Date:	March 9(Thu.), 2023
Session Time:	16:30-18:05
Session Room:	Room B (#307 bc)
Session Chair:	Dr. Stanislav Tyaginov (imec)
	Dr. Minsoo Yoo (SK hynix)

[43B-1] [Keynote] 16:30-16:55

A Comprehensive Cryogenic CMOS Variability and Reliability Assessment Using Transistor Arrays

A. Grill¹, J. Michl², J. Diaz-Fortuny¹, A. Beckers¹, E. Bury¹, A. Chasin¹, T. Grasser³, M. Waltl³, B. Kaczer¹ and K. De Greve^{1,2}

¹Imec, ²Katholieke Universiteit Leuven, ³Institute for Microelectronics, TU Wien

[43B-2] [Invited] 16:55-17:20

Modeling Framework Linking Material Characterization to Reliability Prediction

L. Larcher¹, V. Milo¹, A. Palmieri¹, P. La Torraca², A. Padovani², F. Nardi¹ and M. Pesic¹

¹Applied Materials Inc., ²University of Modena and Reggio Emilia

[43B-3] 17:20-17:35

On the Contribution of Secondary Holes in Hot-Carrier Degradation – A Compact Physics Modeling Perspective

S.E. Tyaginov^{1,2}, E. Bury¹, A. Grill¹, Z. Yu^{1,3}, A. Makarov¹, A. De Keersgieter¹, M.I. Vexler², M. Vandemaele¹, R. Wang³, A. Spessot¹, A. Chasin¹ and B. Kaczer¹

¹Imec, ²The Ioffe Physical-Technical Institute, ³Peking University

[43B-4] 17:35-17:50

Forward Body Bias Technique in DRAM Peripheral Transistor at Cryogenic Temperature for Quantum Computing Applications

Hyunseo You¹, Jehyun An¹, Kihoon Nam¹, Bohyeon Kang¹, Jongseo Park¹, Namhyun Lee², Seonhaeng Lee² and Rock-Hyun Baek¹

¹Pohang University of Science and Technology, ²Samsung Electronics Co., Ltd.

[43B-5] 17:50-18:05

A Study of High Voltage NMOSFET Degradation for NAND HVSW Circuit

Young Gon Lee, Sang Ho Lee and Sung Kye Park

SK hynix