

Tutorial 6: STT and SOT MRAM technologies and its applications from IoT to AI System

Speaker: Tetsuo Endoh (Tohoku University)

Abstract:

I will overview STT MRAM technology for e-Memory application such as SRAM and e-Flash. Next, for higher speed application, I will show SOT MRAM technology. Finally, I will discuss IoT MCU and AI Processor with CMOS/MTJ hybrid technology. (this abstract is to be updated)

Speaker's Bio:

Tetsuo Endoh joined ULSI Research Center Toshiba Co. in 1987 and was engaged in the R&D and Mass-production of NAND Memory. He became a lecturer at the Research Institute of Electrical Communication, Tohoku University in 1995. Now, He is a professor at the Graduate School of Engineering, Director of the Center for Innovative Integrated Electronic Systems (CIES) and Deputy director of the Center for Science and Innovation in Spintronics (CSIS) of Tohoku University. His current interests are advanced memory technology, 3D structure device, beyond-CMOS technology and low power processor technology such as 3D NAND memory, STT-/SOT-MRAM, Vertical GAA MOSFET, CMOS/Spintronics Hybrid circuit, Spintronics-based Non-Volatile Logic from IoT processor to AI processor, and so on. He is also interested in power-management technology, such as GaN on Si based power devices and power electronics from circuits to module/system for automotive applications and so on.

He received the 14th Prime Minister's Award for its Contribution to Industry-Academia-Government Collaboration in 2016. He received National Invention Award "the 21st century Encouragement of Invention Prize" for contribution to invention of 3D NAND memory in 2017.