

Flash Memory Summit Flash Memory Conference & Expo August 2 - 4, 2022 Santa Clara Convention Center

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Flash Memory Summit Announces Lifetime Achievement Award Winners for 2022 Recipients to be honored during annual summit

SANTA CLARA, CA – July 26, 2022 – Flash Memory Summit 2022 (FMS) today announced this year's recipients of its Lifetime Achievement Award. The three recipients are: Yoshishige Kitamura, formerly of NEC; Dr. Eli Harari, founder of SanDisk; and Greg Atwood, formerly of Intel, Numonyx, and Micron. All three played an important role in bringing Multi-Level Cell, or MLC, to the flash memory industry. FMS will honor these individuals for their accomplishments during the annual summit taking place August 2-4 at the Santa Clara Convention Center in Santa Clara, CA on Tuesday, August 2nd at 11:30 AM PT.

MLC initially doubled the capacity of flash memory chips by storing two bits in each data cell. While the first MLC, with its 2 bits per cell, was productized in 1996, the technology has matured and become a fundamental aspect of nearly all flash memory shipped throughout the world. This maturation includes the now-commonplace Triple-Level Cell (TLC) products supporting 3 bits per cell, as well as Quad-Level Cell (QLC) products supporting 4 bits per cell. There is currently a worldwide effort to enable Penta-Level Cell (PLC) products which would support 5 bits per cell.

In 1985, Yoshishige Kitamura invented the concept of storing multiple bits in an EPROM's floating gate cell. He did this while at NEC, the Japanese corporation that at that time was the world's largest semiconductor manufacturer as well as the world's leading supplier of DRAM and floating gate EPROM devices.

Dr. Eli Harari's initial goal with his founding of SanDisk in 1988 was to produce MLC flash memory chips. After eight years of diligent effort, SanDisk succeeded when it first shipped CompactFlash memory cards based on MLC-capable flash chips. (Dr. Harari is a past recipient of this FMS award for other accomplishments.)

Greg Atwood was the key person at Intel responsible for putting MLC Flash into volume production with its StrataFlash products. Atwood was inspired to initiate this effort when he learned of a telephone answering machine that stored linear values for voice recordings on EEPROM chips.

Flash Memory Summit also announces that it presented its 2020 Lifetime Achievement Award to Dr. John R. Szedon for having proposed the use of a Charge Trap as a nonvolatile memory bit. Due to the pandemic, there was no awards ceremony during that year. Szedon's work was detailed in a paper he delivered at the 1967 IEEE Device Research Conference. The importance of Szedon's work is demonstrated by the fact that the vast majority of the flash memory sold today uses the Charge Trap technique.

For more information visit <u>https://flashmemorysummit.com/</u>. Visit <u>https://flash-memory.omnievent.com/</u> to register for the event.



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About Flash Memory Summit

Flash Memory Summit, produced by Conference ConCepts, showcases mainstream applications, key technologies, leading vendors, and innovative startups driving the multi-billiondollar high-speed memory and SSD markets. FMS is now the world's largest event featuring trends, innovations, and influencers driving flash memory and high-speed memory technology adoption within demanding enterprise storage applications, high-performance computing, mobile, and embedded systems.

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