

So What's NECSST in the World of Nonvolatile Memory

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Abstract

We are in the midst of a dramatic change in what computer systems look like. Our traditional view of computer systems composed of the CPU, main memory, and very slow storage device has recently been challenged with the advent of SSDs. Today, with the coming of persistent memory such as 3DXpoint and STT-MRAM that may supplement or possibly replace DRAM, we are, possibly, anticipating an even more dramatic change in what computers of the future will look like. In this talk, I will give a general discussion on the happenings on system software research related to nonvolatile memory. In the process, I will share experiences and results from some recent work that we, at the NECSST (Next-generation Embedded/Computer System Software Technology) lab, have been conducting in regards to nonvolatile memory.

Bio:

Sam H.(Hyuk) Noh (盧三赫) received the BS degree in computer engineering from the Seoul National University, Seoul, Korea, in 1986, and the PhD degree from the Department of Computer Science, University of Maryland, College Park, MD, in 1993. He held a visiting faculty position at the George Washington University, Washington, DC, from 1993 to 1994 before joining HongIk University, Seoul, Korea, where he was a professor in the School of Computer and Information Engineering until the Spring of 2015. Starting from the Fall of 2015 he joined UNIST (Ulsan National Institute of Science and Technology), a young Science and Tech focussed national university, where he is a Professor and Dean of the School of Electrical and Computer Engineering. From August 2001 to August 2002, he was also a visiting associate professor with the University of Maryland Institute of Advanced Computer Studies (UMIACS), College Park, MD.

He has served as General Chair, Program Chair, and Program Committee Member on a number of technical conferences and workshops including the ACM/USENIX European Conference on Computer Systems (Eurosys: 2018), ACM International Systems and Storage Conference (SYSTOR: 2018), EMSOFT (2018), NVMW (2018), IEEE MASCOTS (2017), ACM Operating Systems Design and Implementation (OSDI: 2016), ACM Architectural Support for Programming Languages and Operating Systems (ASPLOS: 2018, 2016), USENIX HotStorage (2018, 2016, 2015), USENIX Conference on File and Storage Technologies (FAST: 2018, 2017, 2016, 2015, 2014, 2013), ACM SIGPLAN Conference on Languages, Compilers, and Tools for Embedded Systems (LCTES: 2015), IEEE International Conference on Parallel and Distributed Systems (ICPADS: 2013), and International World Wide Web (WWW: 2003) Conference. He has also been serving as Editor-in-Chief of the ACM Transactions on Storage since the summer of 2016.

His current research interests include operating system issues pertaining to embedded/computer systems with a focus on the use of new memory technologies such as flash memory and persistent memory. He was named a ACM Distinguished Member in 2017 and is a member of the IEEE (Senior Member), USENIX, and KIISE. (E-mail: samhnoh at unist dot ac dot kr)