Bridging the Gap between Computing and Memory Storage: the Challenges of Computer Architecture in Big Data Era

**SPEAKER**  Prof Yuan XIE

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**DATE**  15 June 2016 (Wednesday)

**TIME**  10:30 am - 11:30 am

**VENUE**  CS Seminar Room, Y6405, 6th Floor  
Yellow Zone, Academic 1  
City University of Hong Kong  
83 Tat Chee Avenue  
Kowloon Tong

**ABSTRACT**

In the big data era, the "memory wall" is becoming the toughest challenge as we are moving towards exascale computing. Moving data is much more expensive than computing itself. In this talk, the speaker will discuss two possible approaches: moving the memory closer to computing with 3D stacking, and moving the computing towards memory with processing-in-memory (PIM) architecture and Near-data-computing (NDC) appear are promising approaches to address the memory wall challenges. Recent industry adoption and recent research advances will be discussed in this talk.

**BIOGRAPHY**

Yuan Xie is a professor at ECE department at UC Santa Barbara (UCSB). He received Ph.D. from Princeton University, and then joined IBM Microelectronics as advisory engineer. From 2003 to 2014 he was with Penn State as Assistant/Associate/Full professor. He also took on-leave and worked with AMD Research between 2012-2013, and joined UCSB in 2014. His research interests include EDA/architecture/VLSI, and has published more than 200 papers in IEEE/ACM venues. He was elevated to IEEE Fellow for contributions in design automation and architecture for 3D ICs. More information can be found at http://www.ece.ucsb.edu/~yuanxie/ and http://seal.ece.ucsb.edu.

All are welcome!