### Topics and Abstracts:

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<td>Title of Presentation</td>
<td>Bonding Technology for 3D Memory</td>
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| Abstract         | Demands for next generation memory with large capacity, high data rate transfer, low power consumption with small form factor are required for wide range of applications such as mobile computing, graphic processing and high performance computing systems. To achieve performance improvement without increasing operating frequency or power consumption, wide IO memory bus is necessary to increase memory bandwidth instead of high frequency interface. The wide IO memory also requires 3D interconnection with TSV, because conventional wire bonding technology cannot be applied.  

In this presentation, memory requirements and future roadmaps are discussed for several different types of memories like DRAM, NAND Flash, RRAM and SRAM. Each memory type has different requirement in number of IO along with total bandwidth which is in the order of SRAM > DRAM, RRAM > NAND. In general, finer pitch 3D connections are required to achieve higher bandwidth. However, some of NAND Flash applications are becoming to require fine-pitch 3D connection less than 10um by separating memory cell layer and logic circuit layer for memory controller. |